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the OIL AND GAS JOURNAL

NOVEMBER 3
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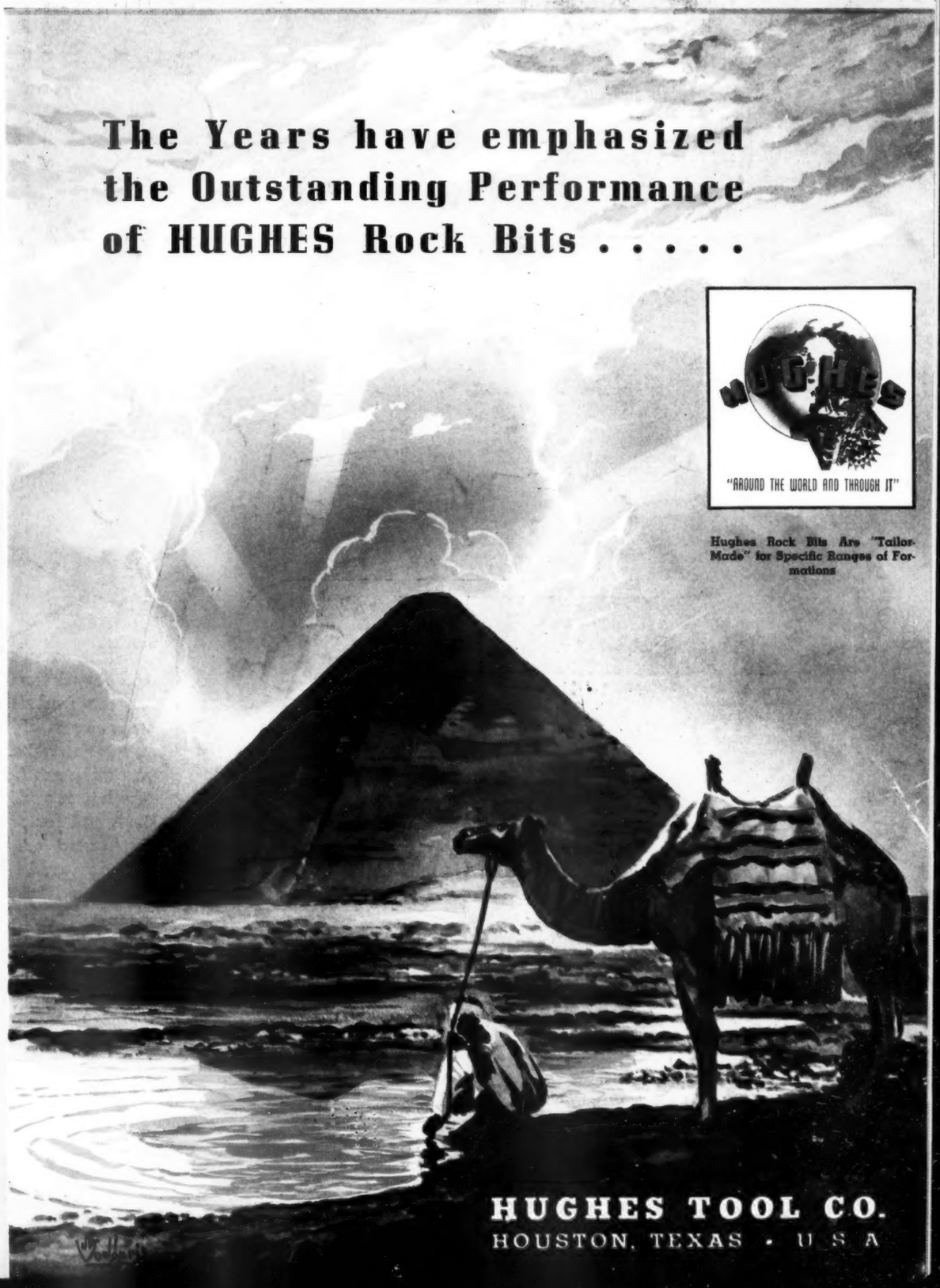

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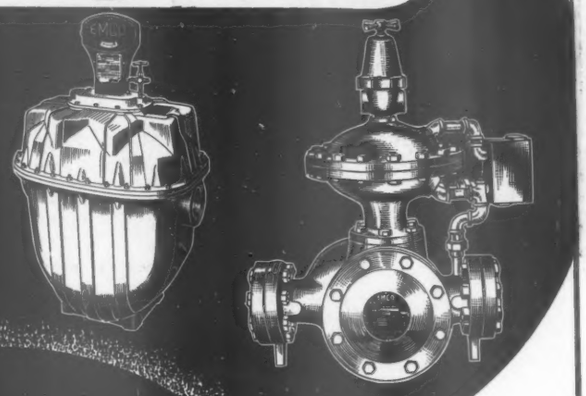

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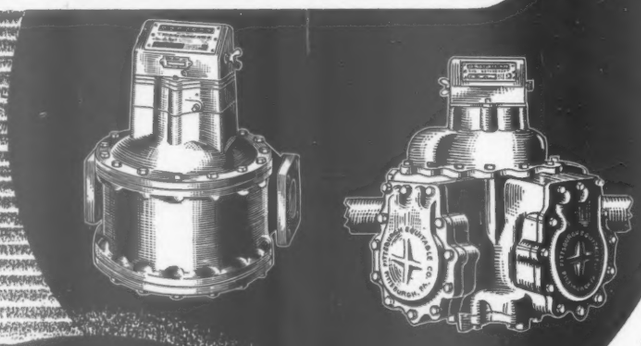

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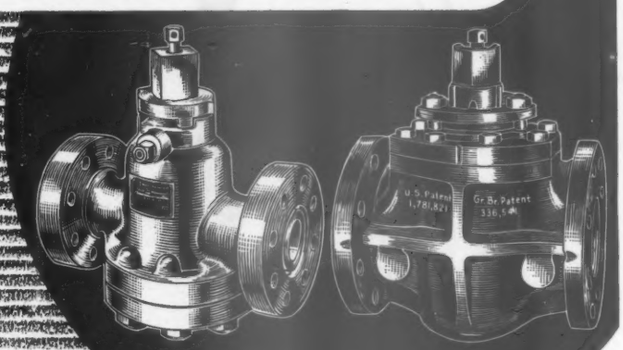

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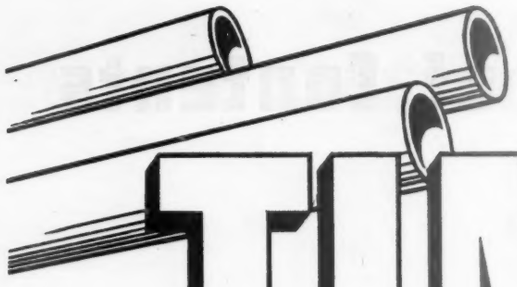

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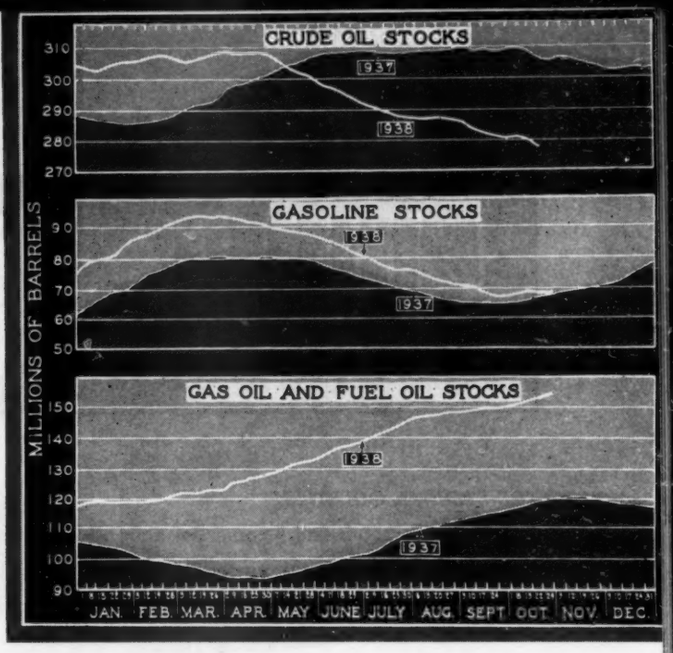
Trends

Problem of Too Much Oil Still Embarrassing in Kansas and Illinois



WHILE production in the United States from week to week shows slight change, the crude price situation is disturbed a little by the willingness of some producers, particularly in Kansas and Illinois, to sell surplus oil below the market price. It is said that oil is being bought by refiners in Kansas below the posted price of most of the companies. The quantity is not large but the fact that any production is being marketed at cut prices is an unfavorable factor.

CRUDE PRODUCTION *3,244,282 barrels daily average—down 2,225. One year ago 3,616,992 barrels.*

CRUDE STOCKS *276,652,000 barrels as of October 22—down 349,000. One year ago 306,556,000 barrels.*

GASOLINE STOCKS *67,590,000 barrels as of October 29—down 105,000. One year ago 66,836,000 barrels.*

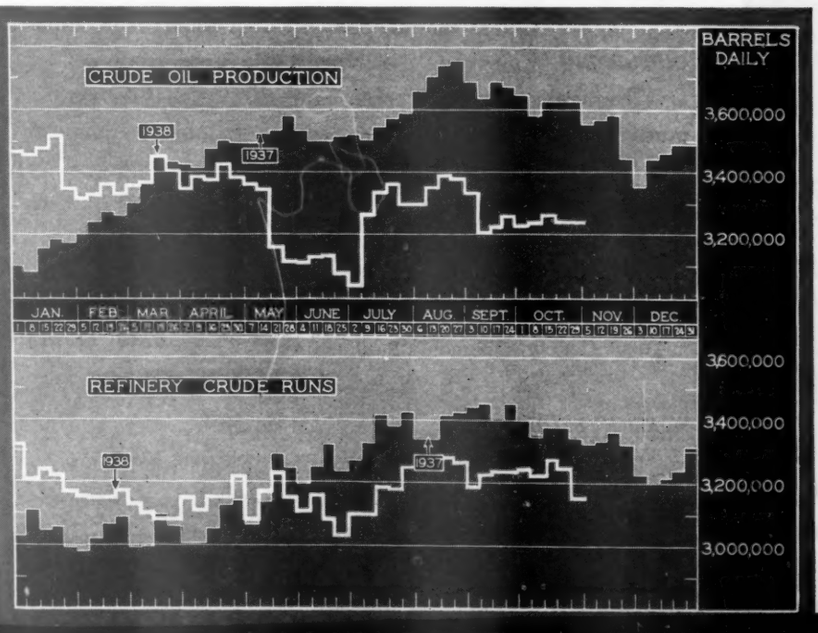
GAS AND FUEL OIL STOCKS *153,719,000 barrels as of October 29 — up 923,000. One year ago 121,070,000 barrels.*

REFINERY RUNS *3,145,000 barrels daily week ending October 29—down 85,000. One year ago 3,345,000 barrels.*

In Illinois where operators are completing wells as fast as it is possible to drill them, the crude situation becomes more serious each week. Proration by pipe lines has, to some extent, prevailed in that state for several months. In the past week the Sohio Pipe Line Co. (Standard Oil Co. of Ohio), the largest crude buyer in the new fields, clamped down on the Louden, Centralia and Salem fields in Fayette, Clinton and Marion counties, and the Burnt Prairie pool in southern Wayne County, with lower per well allowables intended to keep crude oil in its natural storehouse. Steadily rising potential production of the fields had glutted the pipe line, making proration a physical necessity.

Illinois producers are promised some relief, as the Magnolia Petroleum Co. and the Globe Oil & Refining Co. soon will have established gathering systems, the former company in the Salem field, and the latter in the Louden and Salem fields. The Globe company has announced that it will discontinue buying oil in Oklahoma City and in Kay and Grant County fields in Oklahoma and will depend upon the Illinois fields to supply its Illinois refinery.

The continuance of the Saturday and Sunday shutdown in Texas, reduction of allowable production in Louisiana and Arkansas, and the stabilization of allowables in Oklahoma are strengthening signs. The situation in California remains unchanged. Notwithstanding the large production of the Pacific coastal fields and steadily increasing stocks of California oils, the crude market there appears firm.



DAILY AVERAGE PRODUCTION FOR WEEK

	Oct. 29, 1938	Bur. Mines Oct. est. demand	Oct. State allowables	Oct. 22, 1938
Oklahoma City	85,450	.....	.....	104,950
Fitts	38,050	.....	.....	38,025
Remainder of state	308,525	.....	.....	307,800
Total Oklahoma	432,025	523,600	428,000	450,775
East Texas	370,047	.....	.....	369,850
West Texas	200,200	.....	.....	198,850
North Central Texas	111,350	.....	.....	104,847
Texas Panhandle	60,098	.....	.....	59,350
East Central Texas	90,550	.....	.....	89,900
Gulf Coast Texas	330,496	.....	.....	328,000
Southwest Texas	97,599	.....	.....	96,297
Total Texas	1,260,340	1,359,000	1,260,466	1,247,094
North Louisiana	75,445	.....	.....	73,550
Gulf Coast Louisiana	194,200	.....	.....	193,048
Total Louisiana	269,645	248,400	260,470	266,598
California	660,500	619,000	610,000	668,900
Kansas	157,075	163,400	163,400	153,750
Arkansas	49,185	54,100	.....	50,465
Illinois	89,430	51,900	.....	87,205
Michigan	53,862	53,900	.....	54,100
Eastern fields	91,000	96,500	.....	90,800
New Mexico	106,640	109,200	103,800	106,700
Rocky Mountain area	74,580	87,800	.....	70,120
Total United States	3,244,282	3,366,800	.....	3,246,507

Pleasant weather over wide areas, which has stimulated consumption of gasoline, has had the opposite effect on heating oils. Heavy refinery shipments of motor fuel have failed to bring order out of a disorganized wholesale and retail market, and prices continue at levels which forbid profit. Plant shutdowns are becoming more frequent. Notwithstanding the retarded demand for furnace oils, inventories are reported to be in satisfactory condition. Heavy fuels, a problem of long standing, are moving into a slightly more favorable position with the increased operating schedules of industrial plants. Natural gasoline showed marked improvement in the past week as both manufacturers' and refiners' stocks went down under growing demands.

SPARKS FROM THE NEWS

THE ETERNAL QUESTION

Some say the refiners could not have run so much crude if the producers had not produced it. But why should the refiners run so much crude even if the producers did produce it?

HYDE PARK HUMOR

Perhaps the "joker" in the Hyde Park proposal was the suggestion that oil men agree upon a program.

SEEK TO BE SHOWN

Oil men going from eastern to western fields and back have crossed Missouri many times, with never a thought that oil might be found in the "Show-Me" state. Now Missouri has one of the more extensive leasing campaigns in the country, with several wildcats started or projected.

SOVIET SKIDDING

Sovfoto

Transporting derrick by tractor in Krasnokamsk field, U.S.S.R.

STILL FINDING OIL

Current Kansas field operations are less than half of those of a year ago, yet in the past week three Kansas wildcats showed for pool openers and other outposts extended a half-dozen pools in the state.

WHAT'S WRONG HERE?

Consumption of gasoline in October is believed to have broken the record for that month. And the prices refiners got for it were the lowest since the days of East Texas chaos.

AS USUAL

Oil will be one of the first subjects investigated by the monopoly committee. It's an old Washington custom.

DEEP TEST IN MISSOURI

The first rotary rig to be erected in Missouri is being used to drill a deep test in an area where 30-bbl. wells have been completed at 109 feet, near Nevada.

AND NOW THE YAM!

Farmers now are being urged to raise sweet potatoes as a source of alcohol for use as motor fuel.

MOTORS BY THE DOZEN

Twelve gas engines, twelve generators and two electric motors supply the power to drill a deep Oklahoma test near Chickasha.

DISTURBING

The newest Japanese peril alarming California is the possibility that Nippon may not buy so much oil there.

OKLAHOMA DISCOVERY

Northwestern Oklahoma is edging into the oil picture, with a new oil discovery in Garfield County, widespread leasing over several counties, and completion of several gas wells in Texas County, Oklahoma Panhandle.

FOREIGN EXCHANGE

While the diplomats continue to swap notes the Mexicans are bartering oil for what have you.

Aviation Gasolines

By W. T. ZIEGENHAIN

Just thirty years ago the oil industry supplied a few gallons of gasoline to power the first successful airplane flight. But this year the industry will be called upon to supply about 100,000,000 gallons of aviation gasoline, far superior in quality to that used in the 24 horsepower Wright pusher biplane that made history in 1908 and costing the industry about three times as much per gallon to manufacture. In fact, the quality demanded in modern aviation fuels is so high, the business of supplying them is falling into the hands of relatively few refiners.

MANY GRADES AVAILABLE

At present there are 14 grades of aviation gasoline on the market. Efforts are being made to reduce this number to four, but even with this lower number the intricacies of manufacture are limiting the supply to relatively few refineries which have been exceptionally well equipped, maintain large research organizations and process crudes of special quality. The latter factor favors the California refiners as a group since many California crudes naturally contain straightrun gasolines of unusually high anti-knock value.

To complicate the problem further, more planes are being built annually to carry heavier loads, to travel faster. A summary of this trend is outlined in the table.

TREND IN AIRPLANE SPEED SINCE WRIGHT PUSHER

Year	Type	Miles/hour	Gross wt.	H.P.
1908	Pusher biplane	32	992	24
1909	Curtis pusher biplane	47		50
1912	Stream-lined monoplane	105	991	100
1922	Army biplane racer	224	2,110	460
1925	Curtis biplane	264		610
1931	Laird biplane	268	2,480	530
1932	Wendell-Williams monoplane	277		535
1935	Hughes racer	352	4,900	900

PRINCIPAL CONSUMERS

There are three classes of principal consumers who demand one or more of these 14 grades of aviation gasoline available. They include the commercial air lines which absorb about 47 per cent of the total consumed in the United States; government air craft which consume 41 per cent at present; and the balance, or 12 per cent, is absorbed by civilian or industrial planes.

The annual consumption of each of these divisions for the period from 1932 to date appears below:

ANNUAL CONSUMPTION OF AVIATION GASOLINE, GALLONS
(Bureau of Air Commerce)

Year	Commercial air lines	Government aircraft	Civilian and industrial
1932	23,686,948	20,077,884	10,293,599
1933	26,326,796	21,835,526	8,861,104
1934	25,136,274	23,647,113	9,630,869
1935	33,260,609	29,319,412	11,104,259
1936	37,057,069	31,758,397	10,451,496
1937	41,424,384	36,209,123	10,618,240
1938 (est.)	46,000,000	40,000,000	11,500,000

It becomes apparent commercial air lines are taking a gradually increasing percentage of the total. Their importance as a means of transportation is best indicated in the fact that each year since their beginning they have carried a greater pay-load. In 1930, for example, 103,000,000 passenger miles were flown which grew to 549,000,000 in 1937. The use of air mail and air express has shown an even greater increase.

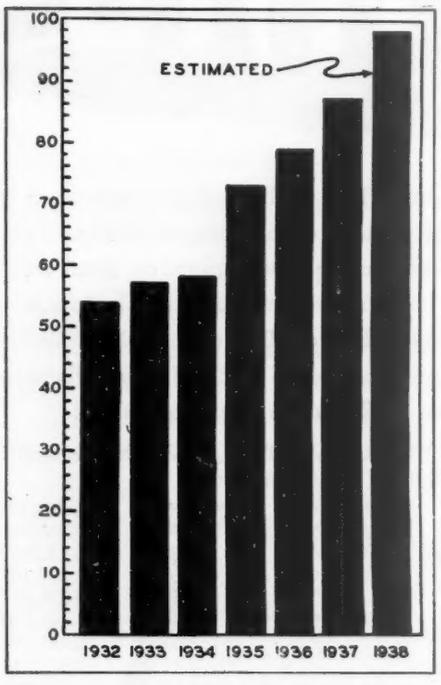
To accomplish this record the air lines have reduced the time of travel across the United States to 15 hours and with this speed they have provided comfort and safety equal to competitive forms of travel. For example, in 1937 the scheduled air lines flew 12,000,000 passenger miles per fatal accident. Another significant fact is that the established air lines are receiving practically no financial help from the government in the form of subsidies. Instead, the difference between the amount of money paid air lines for carrying the mails, and that received by the post office department for air postage, is now in the neighborhood of a half million dollars per year. Over the near future the difference will probably be wiped out by increased business. At

present about 36 per cent of the total income of air lines comes from the federal Government.

Isooctane

One of the most popular grades of aviation gasoline or aviation gasoline constituents is commercially known as isooctane. This is more accurately specified as 2,2,4 tri-methyl pentane, and at the time the Wright brothers made their historic flight this material was to be found only among collections of rare petroleum compounds.

Its value as a motor fuel was not appreciated until its antiknocking power was recognized. Because it had the highest rating among hydrocarbons known to be present in petroleum when the



Annual consumption all grades of aviation gasoline in the United States. Data: Millions of gallons

scale of antiknock values was first introduced, isooctane was given the arbitrary value of 100. All gasolines were rated under 100 in the order of their relative ability to suppress knocking. The scale is still used. For example, a 73-octane gasoline is now considered a suitable fuel for most automobiles and 80-octane gasoline will suppress all knocking in any or all of the ordinary passenger cars.

Aviation Gasoline

But 80 is not good enough for fighting-grade aviation gasoline and it is not good enough for even the commercial air lines. Instead, commercially pure isooctane is demanded and it must measure up to the 100-octane value originally assigned to that then rare compound. Also, it must be manufactured and made available at many points to sustain thousands of planes in flight. In 1937 approximately 7,000,000 gallons of this material was consumed by airplanes in this country alone. This year, because of the greater ease with which it is obtained, the quantity to be consumed is expected to exceed 20,000,000 gallons.

In addition to this a persistent but indeterminate demand is coming from abroad. The threatened European conflict brought forth orders for cargo lots that could not be filled, and what material was available moved from Atlantic and Gulf Coast ports at premium prices. There continues to be persistent inquiries for this material. All available California supplies are said to be moving to Asiatic countries and are being consumed primarily by Japanese and Chinese fighting planes.

Thus isooctane, a product of petroleum refining, is unique in that it enjoys a market demand in excess of its supply, and there is nothing appearing in the trend of aviation engine design to suggest a weakening in this demand, even though existing wars may cease. This statement seems justified since it has become generally accepted that 20 to 25 more power is available in 100-octane gasoline than is available in the 87-octane grade.

This advantage has been recognized by commercial air lines as well as military authorities, and purchases of this material are being made regularly by them.

Since these lines must place balance cost with income and view their purchases of gasoline as a necessary operating expense rather than as an emergency weapon for defense, the acceptance of high-cost 100-octane gasoline by them may suggest its use as a fuel for ordinary passenger cars of the future. The extent of this will be determined by two factors: the availability of the isooctane and the availability of automobile engines built to use 100-octane fuel. Obviously, no automobile manufacturer is going to build engines that require a fuel that is not generally available and which, because of its scarcity commands a premium which cancels or nearly cancels its added power value.

It is not possible to offer conclusive data to show the quantity of isooctane consumed by air lines annually, but it is known the demand is increasing. In some instances the companies have made a practice of providing two tanks of fuel on their planes, one containing isooctane or isopentane for climbing and a lower octane material for cruising. The supposition prevails that later-model engines will be of higher compression ratio and the need for fuels of 90- to 100-octane number will be general for cruising as well as climbing.

W.P.R.A. Committee to Study Plan to Regulate Refining

FORT WORTH, Tex.—Chief result of the meeting of independent refiners held here last week was the selection of a committee to work with a committee of the Independent Petroleum Association of America in studying the feasibility and method of bringing refinery operations under the control of state regulatory bodies and the Interstate Compact Commission. The conference was called by the Western Petroleum Refiners Association and over 150 independent refiners from the Mid-Continent were in attendance. A. V. Bourque, manager of the W.P.R.A., presided.

The seven committee members chosen by President C. M. Boggs, president of Kanotex Refining Co., Arkansas City, Kans., were: T. M. Martin, Lion Oil Refining Co., El Dorado, Ark.; B. H. Gray, Atlas Pipe Line Corp., Shreveport, La.; M. J. Grogan, Hurricane Petroleum Corp., Shreveport, La.; R. B. Jones, Panhandle Refining Co., Wichita Falls, Tex.; D. W. Hovey, Republic Oil Refining Co., Houston, Tex.; A. L. Derby, Derby Oil Co., Wichita, Kans.; Rex H. Winget, Cushing Refining & Gasoline Co., Cushing, Okla. Each represents one of the association's districts.

Following introductory talks by Mr. Bourque and President Boggs and the presentation of statistics on the refining industry for the past year, E. O. Thompson, chairman of the Interstate Oil Compact Commission, gave his views. Control of refining could be based on the same waste provision as the producing industry, he said. If a surplus of gasoline was stored above ground, he asserted, it represented as much waste as too large stocks of crude above ground. The Texas conservation statute now explicitly forbids control of refining, but he believes the law could be revised at the next session of legislature. Improvements made in the crude production end were contrasted with the present chaotic condition of the refining and marketing divisions. "Something is wrong," he said, "when a good efficient refinery cannot be operated at a profit."

Following Colonel Thompson's address, Charles F. Roeser, president of the I.P.A.A., spoke briefly on what had been accomplished by the independent producers, prefacing the remark he was not advocating any argeement that might conflict with any federal or state anti-trust laws. He viewed inclusion of refining in the compact as a chance for refiners to get together without fear of federal prosecution and talk over their problems as oil producers now do. The I.P.A.A., he said, would cooperate so far as necessary with the refiners.

There was some hesitancy on the part of refiners speaking from the floor. R. B. Jones pointed out that during the fall and winter of 1937 high crude runs to stills were mainly due to demand for light fuel oils and that these high runs piled up excessive stocks of gasoline. This year refiners were going into the heavy consumption period of fuels with stocks over 10 per cent higher than those of last year, he said thus there was no need for the present high level of crude runs. Last year's stocks proved to be more than adequate, and now, due to a late fall, he felt there was no excuse for the high runs.

C. L. Mayhall, of Anderson-Prichard Refining Corp., Oklahoma City, characterized the refining industry as the "bottle-neck" of the whole industry and that the congestion there resulted in its present predicament. He, like Mr. Jones, said he did not believe in or want the compulsion present under the NRA oil code. The present plan, he felt, offered the first ray of hope for the independent refiner since the end of the NRA code.

Rex Winget and L. B. Simmons of Rock Island Refining Co., Duncan, Okla., spoke in favor of the plan but urged a thorough study be made. A. L. Derby said that, while he was not speaking for the Kansas refiners, experience on the part of Kansas producers with the oil states compact would keep the refiners out of it.

Court Holds Railroads Do Not Own Right-of-Way Oil

SAGINAW, Mich.—Property rights of Michigan railroads in their rights of way do not include the oil, gas, coal and other mineral rights, under a decision in a Gladwin County case by Circuit Judge Neil E. Reid. The Michigan Central Railroad was plaintiff in actions against owners of property adjoining its right of way through part of the Buckeye oil field. The right of way is a 100-foot strip which the road has used since 1885.

"The general purpose of a railroad company, after all, is that it shall run a railroad," Judge Reid ruled. "The railroad company in this case did not enter these lands for the purpose of coal, oil and mineral rights exploitation, but for the sole purpose of establishing a railroad."

He went on to say the state legislature's apparent intention was to restrict to the operation of trains the use of land taken for railroad right of way, and added: "The court cannot appropriately confer upon such public servant any property rights which the legislature has not expressly given it."

Northwest Garfield Discovery Enlivens Play In Wide Area

By DAL DALRYMPLE

E. C. Jacobson, Maps, Tulsa

The Champlin strike near Hillsdale in Garfield County, farthest northwest oil production in Oklahoma, and recent discoveries at Lamont and Waukomis

Northwestern Oklahoma is edging slowly into the oil picture—or perhaps it is the other way round, and the oil picture gradually is enveloping and taking in northwestern Oklahoma.

In either instance, the indubitable fact remains that a great section of Oklahoma that hitherto has provided little to encourage those seeking new petroleum reserves is being looked upon with growing favor by oil men, major and independent operators alike.

A wave of leasing activity has swept over several of the northwestern counties of the state in recent weeks, numerous large blocks of acreage have been and are being assembled and there is much talk of several proposed wildcat tests scattered over a large area. So far the wildcatting has gone little farther than the vocal stage, but the few tests that have been drilled have offered sufficient encouragement to justify the current leasing activity.

The recent discovery of oil in the Hillsdale area of northwestern Garfield County, farthest west production in the northern part of the state, provided the spark that gave the lease play its major boost. But there have been other developments in the last year or two that have helped center attention on that part of Oklahoma. These include:

Discovery of oil in the Lamont area of Grant County.

Opening of an oil pool near Waukomis in Garfield County.

Development of gas production far to the west in Texas County, Oklahoma Panhandle.

Geologic exploration and discovery of seismograph structures.

And, to the north, discovery of oil and gas in the neighboring Barber and Clark counties, Kansas.

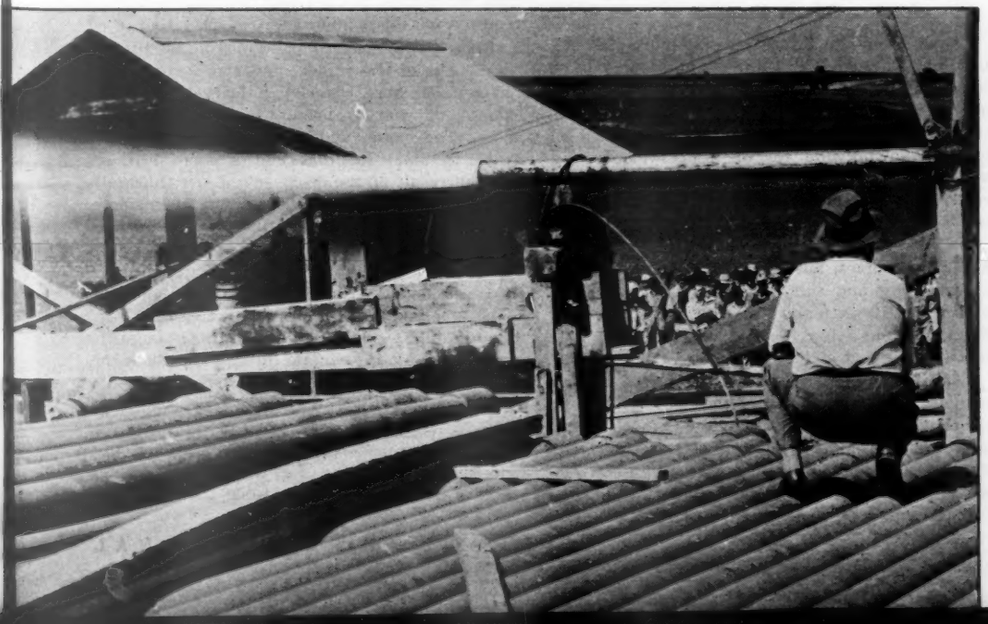
Western Outpost

The Hillsdale strike, still to be listed officially as a completion, is of prime interest because it has proved the existence of oil farther to the northwest in Oklahoma than any other discovery.

The Hillsdale discovery well, Champlin Refining Co. No. 1 Boehm, SW SW NE Section 4-24-8w, 15 miles northwest of Enid, is not a big producer as producers go in Oklahoma. Yet, in a recent 24-hour test it flowed 409 bbls. of oil with 6 per cent water, and a well of that size in strictly wildcat country cannot be passed off lightly.

The No. 1 Boehm was bottomed at 6,702 feet in second Wilcox sand, the producing horizon. First Wilcox sand was found at 6,658-64 feet, and the second was topped at 6,690 feet. Two and one-half inch tubing was set at 6,634 feet. In the first 24-hour test the wildcat flowed 816 bbls. of 44.5-gravity oil, increasing to 871 bbls. the next 24 hours. Later, it began cutting salt water and flow declined to 525 bbls. of oil in 24 hours, with subsequent daily tests averaging above 400 bbls. of oil daily. Highest gauge on gas was 14,700,000 feet daily, ranging downward to 8,500,000 feet. The oil is being trucked to the Champlin refinery at Enid, pending pipe line connections.

The No. 1 Boehm, Garfield County discovery, spouting a mixture of gas and crude oil after drilling into the pay



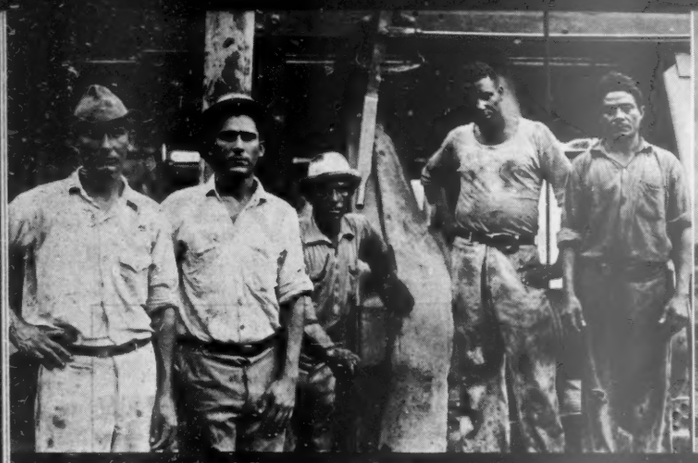
The Champlin company is well protected with acreage, having a block of about 2,000 acres around the well, plus additional outlying leases. It recently added to its acreage by leasing the N half SE Section 3-24-8w and S half NW Section 11-24-8w, the closest-in tracts available. Other operators holding acreage in the immediate vicinity include Ohio Oil Co., Magnolia Petroleum Co., Butler and others, Daniels, Peerless Co., Pure Oil Co., Continental Oil Co., Sun Oil Co., Skelly Oil Co., Sinclair Prairie Oil Co., Texas Co., Mid-Continent Petroleum Corp., Atlantic Refining Co., Devonian Oil Co., Stanolind Oil & Gas Co., Amerada Petroleum Corp., and Phillips Petroleum Co.

Start South Offset

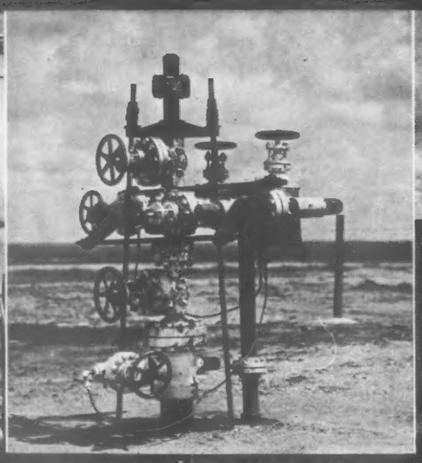
The south offset to the discovery well has been started at Champlin Refining Co. No. 1 Mackey, NW NW SE Section 4-24-8w. This operator owns all offsetting leases. Development of the field on an intensive scale may be slow because of present market conditions.

The surface structure around the Boehm farm

(Continued on Page 18)

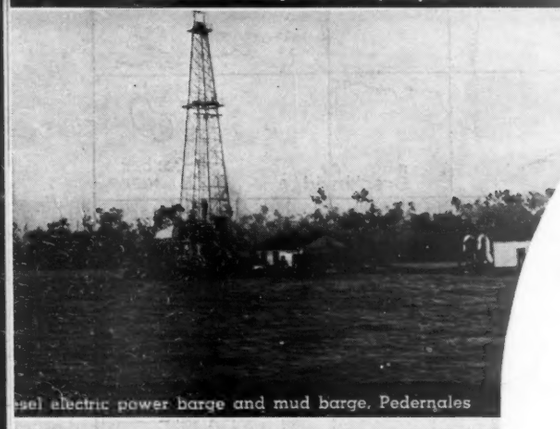


Venezuelan drilling crew in Quiriquire



Christmastree in Temblador field

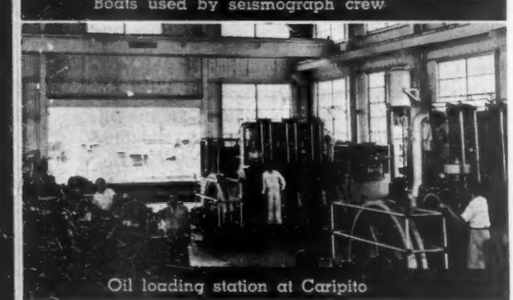
Oficina No. 1



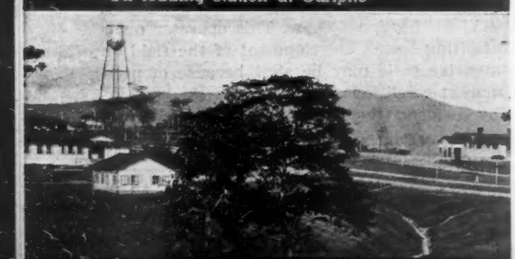
...sel electric power barge and mud barge, Pedernales

Guanta: Site for terminal Oficina pipe line

Boats used by seismograph crew



Oil loading station at Caripito



Oil Bringing In Eastern

By C. O.

Caripito, Venezuela, Oct. 26.—The writer has just completed a several days' tour by water, automobile and airplane covering the active oil areas of eastern Venezuela, a small source of the world's oil supply at this time which is certain to increase in importance in 1939 and the years to follow.

While the present marketed production of 85,000 bbls. daily is only 16 per cent of the total Venezuelan output of 530,000 bbls., many familiar with the geology of the country and the recent drilling developments are of the opinion that new discoveries in Venezuela will center in this section. Some of the older fields of the Lake Maracaibo district, from which the bulk of production is now obtained, are on the decline and others will follow within the next five years. While exploratory work and wildcat testing continue in the western part of the country where the lake fields are located, it is probable the bulk of new production in the immediate future at least will come from eastern Venezuela.

Oil as Pioneer

Aside from the future oil possibilities of this part of Venezuela, a visitor cannot help but be impressed with the accomplishments of those who are responsible for the development up to this time. There is probably no better example in oil history showing how the oil industry, operating under every conceivable difficulty, is opening a section of the world not only to oil exploitation but also to other lines of industrial activity.

Oil is bringing a new era to an area rich in natural resources, but which in many respects is as primitive and untouched economically as it was in the fifteenth and sixteenth centuries, when Columbus and other Spanish explorers first set foot on this part of the world.

Eastern Venezuela, as shown on the accompanying map, includes all of the territory east of the capital of Caracas, north of the Orinoco River, one of the large river systems of this continent. This section, most of which is now being actively explored for oil by drillers or geophysical crews, is about 450 miles long with an average width of 350 miles. This area of 160,000 square miles contrasts with the 265,000 square miles of Texas.

On the north along the coast is the Caribbean range of mountains connecting into a large section on the east which may properly be called a jungle country. On the east is the low swampy country, a part of the delta region of the Orinoco. The south part is plains (llanos) country resembling the terrain of West Texas.

Except for a few native towns along the coast and the Orinoco River, the entire area is sparsely populated. The operating oil companies have come into this large area and have introduced for the first time everything associated with modern methods of living including transportation, public utilities, schools, modern housing, sanitation, hospitalization, public health and living wage scales. This has meant that to date expenditures for facilities in most of the fields have exceeded those required for the drilling and transportation of oil.

This particular camp, which was literally carved out of the jungle, and the operations directed from here covering a large area are an example of what has been done over the past few years. The camp, which includes pipe line and water terminal facilities and a small refinery, was the result of the discovery of the Quiriquire field, 15 miles southwest of here. This field started to produce oil commercially in 1929 and its present output of 70,000 bbls. daily accounts for the bulk of the production in eastern Venezuela. The field was developed by Standard Oil Co. of Venezuela, wholly owned by Creole Petroleum Corp., Standard of New Jersey subsidiary. Although the company maintains general offices at Caracas this camp is the operating headquarters for all the company's operations in eastern Venezuela.

Located in wilderness, the first problem was to establish transportation connections and provide living conditions for native and foreign workers who have made possible the steady de-

Drilling well in Temblador

Loading tanker at Caripito

Native home on road built by Standard

A NEW EPOCH IN VENEZUELA

Willson

velopment of the field. Two pipe lines have been built from the field connecting to the terminal here on the San Juan River. Fortunately the river is deep enough so the ocean tankers can enter through the Gulf of Paria. The tankers are partially loaded here with crude and the full load is obtained from barges stationed in the Gulf of Paria, near Guiria. It was necessary to establish a loading terminal at Guiria on the north end of the Gulf of Paria. Crude is transported to that point from Quiriquire and other fields and is there used to load or top tankers.

Important Oil Port

Thus this has become one of the important ports of the oil world. Ships flying the flags of several countries come here regularly and depart with crude marketed at several refining centers. In this connection the Standard of Venezuela has spent large sums of money in improving and maintaining the navigability of streams in this section of the country.

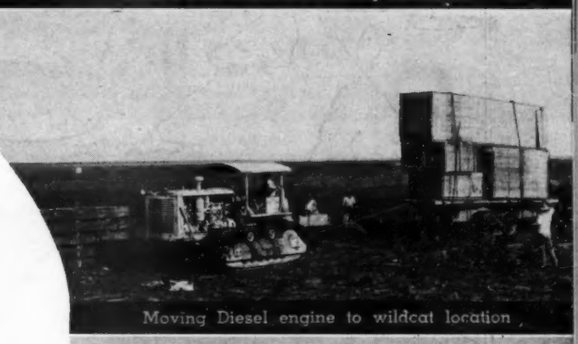
At its terminal the Standard of Venezuela also operates a small topping plant. The company has plans to construct a much larger refinery here.

All operations in this territory are so isolated that each field is forced to maintain a large warehouse of equipment and supplies. Requirements are projected from several months to a year in advance with deliveries often requiring several weeks or months. This emphasizes the necessity of special care in the selection of required supplies and necessitates the carrying out of operating programs as approved at the start of a new year. Several million dollars are represented in these oil field supplies, the investment at one camp totaling approximately $3,000,000 at this time.

A highway system was built connecting the Quiriquire field and other nearby operating points to this central headquarters. Airports were built and, largely due to the business made available by the oil companies, this point and Guanta on the Caribbean Sea near Barcelona, which is to become a major oil terminal next year, are stopping points on the Pan American Airways international line which crosses Venezuela from Trinidad to Colombia. This gives two-day passenger and mail service to and from the United States twice a week. This service is particularly important to an area which is not served by any of the main boat lines and which does not at this time have a direct railway or improved highway connection to other parts of Venezuela. The company operates two private planes in connection with its oil operations and there are other privately owned planes, as well as a commercial service directed by the Venezuelan government which serves a part of this territory.

This camp, surrounded by mountain ranges where all the wild life common to a heavily wooded tropical country is found, consists of 400 acres. In appearance it is as attractive as any in the United States with the permanent facilities needed for any operation which will continue for several years at least. In order to build the type of homes and other buildings needed for this country, the company, after it had completed its road system, built a plant to make bricks and tile from the soil along the main highway. Most of the homes for both native and foreign employes are made of this tile and brick. These homes and quarters scattered over a rolling country of 250 acres afford better than average living conditions for married and bachelor employes. A golf course, swimming pool, club house, bowling alley and tennis courts are among the amusement features provided by the company. This particular camp has facilities for 103 families and 204 bachelors. The labor camp houses are also of brick and tile construction providing homes for 336 native employes.

The company also has similar accommodations for employes at Pedernales and Temblador providing company-owned housing facilities for approximately 2,000 employes in this part of the country and Cumarebo, a company field in the

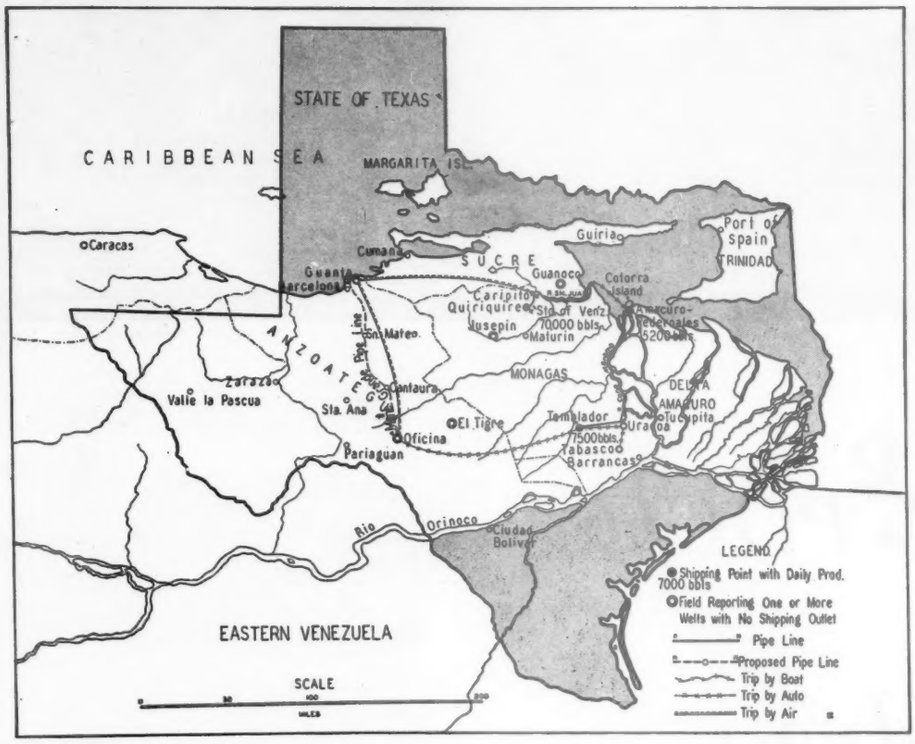


Moving Diesel engine to wildcat location

Main office building of Standard at Caripito

Homes for Standard native labor, Caripito

Guiria: Office building and terminal of Standard



western part of the country. In this connection the company is cooperating in every way possible with the government's program of furnishing employment for native Venezuelans. The government requires that 75 per cent of the total number employed be citizens of this country.

At this time approximately 90 per cent of the company's 4,500 employes are Venezuelans. They are found in all departments and special provisions are made to train men in all phases of operations. All drilling in the proven areas is done by native drilling crews and in wildcat tests the same policy is pursued except that each crew has one American driller.

The company in this and other camps furnishes all the public utilities including water, light, telephone, refrigeration and transportation. A radio telephone system connects the operating camps.

A brief description of the combination water, automobile and airplane trip previously referred to will serve to give the reader a summary of the scope of the operations in this section, and the many difficulties encountered indicate the part the area is to play in the future operations of the industry.

The trip from here started at night in a boat. The company, due to the importance of its marine operations, maintains a fleet including launches, passenger boats, tugs, barges and larger boats designed to transport the heaviest oil field equipment.

Pedernales

The trip to Pedernales required approximately 11 hours, including five hours on the rough Gulf of Paria. At this point the company maintains a marine operation which is unusual in many respects. Present production is 5,000 bbls. daily of 21° A.P.I. gravity oil secured from 13 producing wells. Production is obtained from depths which range from 5,000 to 6,200 feet. The field, which is producing from the middle Miocene, is an anticline tending northeast and southwest. Present drilling is confined to one rig. Operations are directed toward determining the size of the field, which is now about 2½ miles long and one-half mile wide.

The operation is entirely marine. It cannot be approached except by water and the wells themselves are located either in water or in a marshy area. The field is on the south shore of the Gulf of Paria on the Cano Manamo River, which is the most northern mouth of the Orinoco River. Some of the wells are located in the Cano Manamo River, with the remainder on the delta land of Isle Cotorra.

A pile-supported trestle supports a narrow-gauge railway which connects to all the wells, pumping stations and all other producing facilities. Getting ready to drill is a major operation in itself. The laying of heavy timber mats beneath the swampy surface is the first operation. Twenty-inch welded steel piles capped with a steel substructure support the 122-foot derrick.

In the water, a Diesel-electric unit is operated. Power and mud for this operation are supplied from two barges. The power unit consists of three 260-hp. Diesel engines connected to direct-current generators and exciters. These supply the current for a 150-300-hp. motor which operates the draw-works and rotary. The mud pumps are mounted on a second barge with mud pit, reserve mud storage and cementing equipment. This barge has a heavy deck above this mud equipment which serves as pipe rack for drilling operations. The steep dip of the strata has presented many drilling problems and the high reservoir pressures have necessitated the use of exceptionally heavy muds.

The main camp is across the river, a distance of about 2 miles. This camp on a smaller scale duplicates most of the facilities found in the main camp at Caripito. At still another point across the river a warehouse and machine shop are maintained. This camp is completely isolated from outside connections except for the operating headquarters at Caripito some 85 miles away, and due to this fact it operates largely as an independent unit which must project its operating requirements from a few weeks to several months in advance.

Leaving this camp in the late afternoon our boat proceeded up the Cano Manamo to Boca Uracao, the head of another new Standard operation in the delta region of which a great deal is to be heard over the next few years.

The trip up this stream in the late evening and night is worth all the time that it requires affording a view of tropics obtainable at few other points. The heavily wooded banks shelter most of the bird life of this part of the world. Monkeys are seen in the morning and late evening and alligators abound in these delta streams. The occasional native village along the banks serves to emphasize how far removed a portion of the population of this country is from those who are now using their streams as transportation arteries in the movement of petroleum products considered necessities by another civilization.

Boca Uracao is the water terminal of the new pipe line completed by the Standard company this year which has furnished an outlet for the new Temblador field.

Arriving at 3 a.m. we stayed until morning when we ate breakfast on a houseboat which serves as a home for those who are completing the construction of the terminal and those who operate it. Here we met a welder from Tulsa, an engine operator from Louisiana and other workers from Texas. It might be stated here that if there is ever a general exodus of men coming from Texas, Oklahoma or Louisiana due to homesickness or some other cause there will be a complete cessation of operations in this part of the world. These three states are well represented wherever the writer has been.

After breakfast we continued our trip up a smaller stream known as the Uracao to Tabasco, where the company has established another terminal in connection with its Temblador operations.

Under the present arrangement shallow draft boats come up the Cano Manamo to Boca Uracao and take the crude from the pipe line terminal there. It is transported to Guiria, where it is loaded on large tankers for final transportation to refinery connections.

All equipment and supplies used in connection with the Temblador operations are brought up the streams from the Gulf of Paria to Tabasca through Boca Uracao. What this has meant can only be appreciated by those who have charge of this operation of towing barges and other boats up these streams and then taking their cargoes overland to the Temblador camp, the center of operations for this area.

From Tabasco we rode 35 miles over a company-constructed road to the Temblador camp. You leave the delta region and enter the plains country at this point. On the plains adjoining the delta streams, thousands of cattle are grazing, supplying markets both within and outside this country.

Temblador Operation

The Temblador operation at present consists of 40 flowing wells producing oil of 22-degree A.P.I. gravity from a depth of 3,900 feet. Three rigs are operating in the proven area and two on outside locations. The field at present is more than 20 miles long with an indicated producing width of about one-half mile. Production is from the upthrow side of a normal fault the length of which has not been determined.

The oil is coming from sands in the middle Miocene. The field trend is northeast and southwest. Present marketed production is 7,500 bbls daily.

The production at present is coming from concessions owned by Standard Oil Co. of Venezuela, Lago Petroleum Corp., and the Mene Grande Oil Co. (Gulf) with Standard of Venezuela in charge of operations. An extension test is now drilling on a concession owned by the Pantepec Petroleum Co.

With the derricks removed from the flowing wells and the operations scattered over a wide area the field does not have the appearance of

(Continued on Page 24)

Texas Division Talks Taxation at San Antonio

C. F. Roeser receiving association award, presented by H. C. Wiess

By NEIL WILLIAMS

SAN ANTONIO, Tex., Oct. 29.—Need of greater cooperation and more concerted action in opposing further increases in already high taxation imposed upon the oil industry of the state was impressed upon the Texas Mid-Continent Oil and Gas Association at its nineteenth annual convention in San Antonio October 27 and 28. The convention was warned that unless a halt is called in the upward trend in tax levies and in "unwise" oil legislation not only will the industry suffer unbearable hardships but development and prosperity of the state will be handicapped.

Charles P. McGaha, Fain-McGaha Oil Corp., Wichita Falls, president, sounded the keynote in his opening address, declaring the oil industry recognizes its tax obligation to government and society, and willingly goes the limit, and more, in payment of fair and reasonable taxes, but when the point is reached, as now, that the load of tax costs destroys the industry's incentive for continued development of Texas' greatest natural resource, something must be done.

TOP: President C. P. McGaha welcoming Governor-Nominate W. Lee O'Daniel. CENTER: J. C. Hunter receiving association award, presented by W. B. Pyron. BOTTOM: D. K. Martin, J. S. Bridwell and W. H. Francis

The convention looked to W. Lee O'Daniel, governor-nominee, to indicate his attitude towards the oil industry and its taxation problems. Mr. O'Daniel declared he did not wish to place additional taxes and burdens on any business, and did not want one industry to share any greater load than another, but if conditions made it necessary, additional funds would have to be raised from some source, and he intimated there is little else left to tax outside of oil. He suggested that if the oil industry felt it was being taxed too heavily, it could cut down on its taxes by helping with investments to build up other types of industries, in cooperation with the state's proposed industrializing program, that eventually would share the tax load.

Harold G. Neely, president, Iron Mountain Oil Co., Fort Worth, chairman of the tax committee, read its report that taxation of the oil industry of Texas has become critical, and in some instances tax increases have reached "complete confiscation." In numerous counties it takes 51 days of working interest production to pay annual state and local taxes against crude oil. The average oil well in Texas paid last year state and local taxes equivalent to the market value of 30 days' working interest production. This was exclusive of the federal tax bill which added a toll equal to 40 days' working interest production.

Mr. Neely said 60 per cent of Texas producing wells are on the pump, and exclusive of East Texas, 70 per cent of the remaining wells are on the pump. The average tax paid by pumping wells, based on figures in 15 counties, is 9½ cents per barrel produced.

State and local levies on crude oil in 1937 totaled nearly $43,000,000, an increase of 46 per cent over 1935, and gross production taxes increased 111 per cent.

"The constant increase in the industry's tax load has been accompanied by increases in labor and equipment costs, and these factors have placed oil producers in a precarious position," Mr Neeley said.

Mr. Neely said the average tax per barrel of oil produced in the state is 8.4 cents, the highest of all oil-producing states. In some counties as much as 15 cents per barrel is paid.

"Get busy and protect yourself if you don't want to be taxed out of business, Mr. Oil Man," Mr. Neely warned.

"Local government units must take a definite stand against any further increase in state and federal taxation on the oil industry if Texas local government is to survive," Merritt H. Gibson, of Longview, county judge-nominate of Gregg County, declared. "Unless steps are taken to reduce direct state and federal taxes to a more equitable level, many of the state's local subdivisions of government face a serious situation through an inevitable retarding of oil development, forced upon the oil industry by an unbearable tax load."

Warning Sounded

Mr. Gibson's remarks were in line with the president's opening address, in which the great contribution which the oil industry had made to the growth, development, and prosperity of the state was pointed out. Mr. McGaha also warned that if the state and all its tax-levying subdivisions, as well as general business and the citizenship of the state as a whole are to continue to progress, the oil industry, which has been responsible to a large extent for previous progress, must not be handicapped by "unwise legislation and confiscatory taxation."

"Without oil and statewide distribution of billions of oil money, Texas would not have been the outstanding white spot on the nation's business map for the past seven years," Mr. McGaha declared. "Although oil has been produced commercially in Texas over nearly 50 years, more than half of the 5,000,000,000 bbls. of oil produced thus far has been produced within the past seven years."

During those seven years, Texas producers have spent more than $4,000,000,000. Last year all branches of the industry spent $755,000,000 producing oil and gas and manufacturing these into consumable products, with nearly half the money spent being for wages and salaries, lease and royalty payments, and taxes. More money is being put into the industry than is being taken out, the value of petroleum and its products last year being only $750,000,000 as compared with the $755,000,000 invested.

Reflecting the benefits of oil development, taxable values in counties in which oil development has taken place have increased in much greater proportions than in other counties. Tax values outside the oil industry have decreased while oil tax values have been increased.

"The statewide development of Texas' oil industry not only has been a tremendous economic

factor in the past, but it has provided Texas with a future," Mr. McGaha continued. "Today, as a result of this vast development, Texas holds the key to the world's greatest storehouse of oil with proved underground reserves aggregating well above 7,000,000,000 bbls., or more than one-half of all the reserves in the United States. The ultimate producing and refining of this oil will mean continued expansion of the Texas petroleum industry, and we may safely anticipate greater expenditures and greater activity in the future."

A total of $126,006,176 has been paid the state by the Texas oil industry in direct state taxes, exclusive of the gasoline tax, since the first crude oil production tax in April, 1905, George H. Sheppard, state comptroller of public accounts, told the convention. This included, he said, $116,431,706 in production taxes, $5,552,948 in so-called regulating pipe line tax, $2,377,793 in gross receipts levies on natural and casinghead gas, and $1,643,729 in taxes on intangible values of pipe lines. These taxes also do not include levies made by local governmental subdivisions. Mr. Sheppard paid tribute to Texas oil men for their cooperation in payment of taxes.

Officers and Directors

Except for H. R. Stroube, of Stroube & Stroube, Corsicana, vice president the past year for the East Central Texas district, whose place was filled by J. L. Collins, of Wheelock & Collins, Corsicana, all officers of the association were reelected. These include: Mr. McGaha, president; George C. Gibbons, Dallas, executive vice president; H. R. Cullen, president, Quintana Petroleum Co., Houston, vice president, Gulf Coast district; Bryan W. Payne, Iowa-Payne Oil Co., Tyler, vice president, East Texas district; P. F. Gwynn, Wichita Falls, vice president, North Texas district; E. J. Dunigan, Jr., Pampa, vice president, Panhandle district; Harry Adams, Adams & Bradley, Midland, vice president, West Texas district; J. C. Hunter, Brown Eagle Oil Co., Abilene, vice president, West Central Texas district; Al Buchanan, Al Buchanan Production Co., San Antonio, vice president, Southwest Texas district, and Eugene McElvaney, First National Bank, Dallas, treasurer.

All directors, except those eliminated by death, or removal from the state, also were reelected. Fifteen additional new directors were elected. They are: Sidney W. Richardson, Fort Worth; E. L. Wilson, Maracaibo Oil Exploration Co., Dallas; Harold Neely, Iron Mountain Oil Co., Fort Worth; Arthur Seelingson, Transwestern Oil Co., San Antonio; M. D. Bryant, San Angelo; R. C. Gwilliam, Ohio Oil Co., Houston; Marrs McLean, San Antonio; Grady Vaughan, Vaughan Drilling Co., Dallas; Dr. J. C. Karcher, Geophysical Service, Inc., Dallas; Jim Abercrombie, Abercrombie & Harrison, Houston; Ken Regan, Salt Dome Oil Corp., Houston; E. H. Foster, Phillips Petroleum Co., Amarillo; A. J. Cunningham, Standard Oil Co. of Texas, Dallas; Alex Clark, Coleman Oil & Gas Co., Coleman; S. T. Childress, Rio Bravo Oil Co., Houston.

Because of increase in membership the past year, the association is entitled to additional places on the board of directors of the general Mid-Continent Oil and Gas Association. Those elected to these places were: J. S. Bridwell, Bridwell Oil Co., Wichita Falls; B. C. Clardy, Heyser, Heard & Clardy, Dallas; S. Maston Nixon, Southern Minerals Corp., San Antonio; Jake Hamon, Cox & Hamon, Dallas; Harry S. Moss, H. S. Moss Drilling Co., Dallas; J. C. Hunter, Grisham-Hunter, Abilene; J. R. Penn, Texas Pacific Coal & Oil Co., Fort Worth; Bryan Payne, Iowa-Payne Oil Co., Tyler; Rodney DeLange, Plaza Hotel, San Antonio; F. M. Frasher, Duval Oil Corp., San Antonio; Mills Bennett, Mills Bennett Production Co., Houston; Edwin B. Hopkins, Dallas.

Jake L. Hamon, Cox & Hamon, Dallas, chairman of the membership committee, reported a total membership of 1,301, an increase of 429. He said 52 companies had increased their number of members. He predicted an additional large increase in membership the coming year.

Paul W. Pitzer, of Breckenridge, chairman of the theft prevention committee, reported that, through efforts of the association in cooperation with peace officers, approximately $200,000 worth of stolen oil field equipment was recovered the past year. During the year 164 recoveries of identified stolen equipment were made to 92 companies.

Work of the association's social security committee in simplifying separation notices and other details was discussed by Raymond Myers of Dallas, chairman. The report of the form simplification committee, of which Guy L. Tate is chairman, was presented by Mr. Gibbons.

The association's annual awards for distinguished service to the oil industry and to their respective communities were presented to Charles F. Roeser, Fort Worth, representing the independents, and Walter B. Pyron, executive vice president of Gulf Oil Corp., Houston, representing the major companies. The awards, handsome desk clocks, were presented by Harry C. Wiess, president of Humble Oil & Refining Co., to Mr. Roeser, and J. C. Hunter, independent, Abilene, to Mr. Pyron.

GARFIELD DISCOVERY

(Continued from Page 13)

was worked out in 1925 by C. G. Carlson, of Tulsa, then employed by Twin State Oil Co., now Sun Oil Co. Later, the Twin State core-drilled the area and then made a seismograph survey after taking a spread of leases. The Sun company turned back or dropped the leases about two years ago and they then were taken by the Champlin company, whose geologists had studied the area and believed in it sufficiently to drill a well. The Champlin company continued to add to its block for about a year before starting No. 1 Boehm.

Nearest production is in the Garber field about 25 or 30 miles southeast, and the one-well Waukomis pool a similar distance south-southeast. The Garber area was opened in 1916 and the Waukomis pool was a discovery of the past year. The Carter Oil Co. discovery in the Lamont area, about 30 miles to the northeast in Grant County, a Wilcox sand pool, was opened in 1937. So far no oil has been found farther west in northern Oklahoma, although one well drilled by the Sinclair Prairie company in Harper County has produced some gas and large gas production has been found still farther west in Texas County.

Two trends are being played by the lease men, there being the inevitable difference of opinion. One supposed trend ranges northwestward from Garber to Hillsdale and is being followed by many of the lease men. Another school of thought has the trend running from the Waukomis area south of Enid northward and westward toward Hillsdale.

Lease Men Active

Although no close-in acreage is available, the Champlin-Boehm discovery at Hillsdale opened the way for further development in northwestern Oklahoma. As a result, several major companies, as well as independent operators, have had landmen in the district taking checkerboard lease spreads throughout a half dozen counties. They have been paying from $2 to $5 for outlying leases.

When salt water intruded in No. 1 Boehm there was a momentary let-up in lease buying, but the interruption was brief. Trading was most active along the northeast-southwest trend at first, but has since spread more generally over the northwestern counties. Most of the early buying was done by the Champlin, Magnolia, Gulf, Atlantic, and Indian Territory companies. Several other operators sent seismograph crews into the area, and they have been working out of Enid, starting principally in Sections 4-25-8w and 4-24-8w.

Some of the more recent lease activity has been in Townships 23-7w, and 24-8w and 23-6w, all in Garfield County, with the Gulf, Sinclair Prairie, Champlin, Atlantic, Indian Territory, Mid-Continent Petroleum, and Magnolia companies participating. Alma Oil Co. has taken several tracts in Townships 21-4w, southwest of the Garber pool, and 20-5w, southeast of the Waukomis pool. Washoma Petroleum Co. took a spread in Townships 22-8w and 23-8w, south of the Hillsdale area, all in Garfield County.

Indian Territory Illuminating Oil Co. has taken by assignment tracts in Sections 29, 30, 32, and 33-24-6w, Section 4-23-6w, and part of SW Section 21-23-7w, east and south of Hillsdale. Atlantic Refining Co. has bought in Sections 8, 29, 31, and 34-24-8w, and S half NE Section 8-24-6w. Champlin Refining Co. added to its protection by taking acreage in Sections 8, 9, 24, and 31-23-8w, Sections 22 and 33-24-8w, NE Section 31-23-6w, and NE Section 25-24-7w.

In Grant County

Buying has extended into the west half of Township 24-8w and west half of 25-8w in Grant County, and east half of Township 25-9w, Alfalfa County. Lucille L. Smith was reported assembling a block south of Goltry in Alfalfa County, with the block extending southward into Major County. The purchases in Alfalfa include acreage in Section 31-24-9w, Section 1-23-10w, Sections 5, 6, 7, 9, 16, 17, and 18-23-9w, and Section 8-23-8w.

The play has extended northward from the Champlin discovery in Garfield County into Grant County, with Gulf Oil Corp. obtaining leases in Sections 27-26-8w and 26-25-8w, and Sinclair Prairie Oil Co. in Section 23-25-8w. S. J. Cullinan was reported assembling a block for Carter Oil Co. in the east half of Township 25-4w, near Salt Fork in Grant County. In that same sector, Mid-Continent Petroleum Corp. bought in Sections 13 and 26-25-4w, and D. F. McMahon obtained leases in Sections 10, 11, 23, and 24-25-4w.

Woods County, directly south of Barber County, Kansas, has been attractive to the lease men. C. E. Taylor, of Wellington, Kans., was reported to have leased about 1,500 acres in western Woods County, in Sections 9, 10, 11, 14, and 15-28-18w, most of the leases being new. J. C. Powers took SE Section 14-28-18w, and Mid-Continent Petroleum Corp. leased SE Section 15 and NW Section 35-27-14w. Some checkerboard leasing also was reported in the Alva area, eastern Woods County.

Lease activity, in fact, is reported throughout Grant, Garfield, Alfalfa, Woods, Major and northern Woodward counties in Oklahoma, and in the neighboring Barber and southwestern Harper counties in Kansas. This is a general area in which the drillers may expect to find not only structures but lensing sands in the dolomites and limes, according to geologists.

In addition to the widespread area extending northwestward from the Garber district, the lease men are following a trend southward from Barber County, Kansas, along a probable southward extension of the western Kansas uplift. Some attention also is being given extension of the Clark County, Kansas, basin southward into Harper County, Oklahoma.

Activity in Texas County, where operators are seeking to develop a big gas reserve for the proposed pipe line from the Hugoton district to Minnesota, has increased considerably in recent weeks.

California Outlook Is Affected By Drop in Japanese Trade

By L. P. STOCKMAN

LOS ANGELES, Calif., Oct. 31.—The outlook on the Pacific Coast is decidedly unfavorable and there does not appear much hope of improvement soon. Crude production is still far in excess of demand with no concerted attempt to reduce it. With the exception of August, stocks have shown an increase for more than a year and at the close of September had reached 153,237,753 bbls. The accumulation during September averaged 92,337 bbls. per day or 2,770,114 bbls. California cannot go on accumulating 90,000 bbls. per day indefinitely because the empty storage available may be the dominating influence. During the first nine months of the year 25,197,506 bbls. of crude and refined oil have been added to stocks in Pacific Coast territory. It may exceed 30,000,000 bbls. before the close of the year.

Two alternatives will confront the California industry unless the demand shows an unexpected increase. Chronic overproduction must lead to lower prices for both crude and refined oil or drastic curtailment of crude production. The Central Committee of Oil Producers appears to be repeating the mistake made in October, November and December of last year by permitting production to continue out of bounds, except that stocks now are 25,000,000 bbls. higher. During the week the committee decided to allow the state allowable to remain at 610,000 bbls. with a 5,000-bbl. tolerance for contingencies and thus the allotment for November was not to exceed 615,000 bbls. daily. Actual production has been running around 665,000 bbls. per day for several months and production during November will be the same unless a concerted attempt is made to secure curtailment.

Shipments

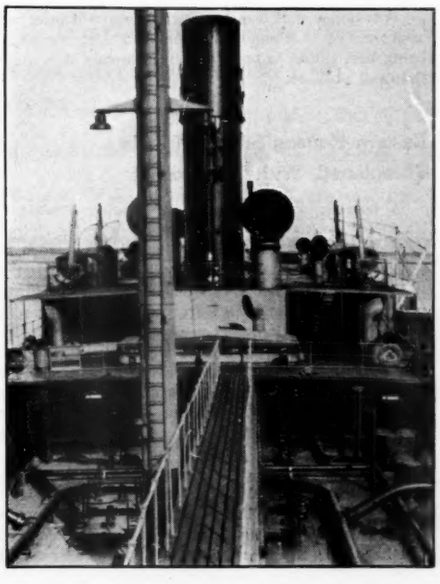
The Sino-Japanese war appears to be nearing its climax and while hostilities may continue indefinitely it appears probable the demand for crude and refined oil will be far less than required while the Japanese Army was on the march and naval activity at the peak. It may be assumed therefore, that demand for California crude and refined oil will be less as far as offshore business is concerned. If so, it will complicate the production situation and precipitate a crisis.

The present situation is not due to the production activities of any single group but is the cumulative effect of overages in many primary fields. Both large and small operators have been producing in excess. In addition to a possible decline in the demand of the Japanese market the California industry is confronted with the probability that Mexican crude will enter the Japanese market. Three cargoes of Mexican crude aggregating approximately 275,000 bbls. have already been lifted for movement to Japan and within the past week the Japanese tanker Toho Maru put in at Los Angeles Harbor for bunkers and supplies. Heretofore tankers handling Mexican crude have avoided calling at California ports. The Toho Maru was loaded at Coatzacoalcos near Vera Cruz. In addition to Mexican crude, the Japanese market absorbs Texas crude at periodic intervals. During August the tanker Itukusima Maru picked up a cargo of crude at Corpus Christi and moved it to Yokohama about the same time that the tanker Tatekawa Maru picked up a cargo of fuel oil at Nanchital, Mexico, destined for Korea. These liftings displace California petroleum and while the amount involved has been relatively small it could become a disturbing factor.

Marketing Conditions

The marketing situation on the Pacific Coast has been relatively stable, although there has been some chiseling. To discourage this practice and stabilize the general market, the California attorney general, U. S. Webb, has directed the department of agriculture to enforce the state law prohibiting the sale of gasoline at prices lower than those posted on pumps and dispensing equipment. In an opinion the attorney general pointed out the law was designed for the "prevention of indiscriminate and secret slashing of prices." He held it is the duty of the division of weights and measures of the agriculture department to employ additional inspectors, if necessary, to investigate whether gasoline is being sold contrary to law. This movement may discourage the so-called "under-the-canopy" selling which includes selling below the posted price or the granting of secret cash rebates.

Not much success has been experienced in enforcing the California Fair Trade Act which, among other things, prohibits selling of merchandise below cost and permits manufacturers to establish the selling price of branded products. It is within the province of refiners to establish the retail price of their grades of gasoline but the consent decree entered in the San Francisco federal district court against practically all marketers in Pacific Coast territory has been a deterrent to stabilization by making it illegal for marketers to make any concerted attempt to stabilize prices.



Several independent refiners and marketers have been attempting to prevent a general collapse during the winter by agreeing among themselves to refrain from indiscriminate price cutting. This group feels that if the smaller independent refiners and marketers put their house in order the larger marketers will keep on their own side of the street. Marketers are especially desirous of maintaining existing prices if possible but this cannot be done if crude production continues out of line.

Disappointing Demand

In addition to excess production of crude the demand for refined oil is below normal expectations which anticipated a slight gain over last year. The demand not only failed to increase but actually declined due to general business conditions. Fuel oil, including refinery residuum, gas oil, Diesel oil, stove oil, heating oil and other similar products, has been especially weak and has shown price recessions. Fuel oil was reduced in price late last year and again this year but even this has failed to stimulate consumption. On October 20 Standard Oil Co. announced a reduction in stove oil and furnace oil prices in Pacific Coast territory ranging from one-fourth cent to 1½ cents. Tank-wagon prices in San Francisco for burning oil and stove oil were 5½ cents and 6½ cents respectively. These quotations were cut 1½ cents in the new price schedule of October 20 but made retroactive to October 17. On the latter date Shell Oil Co. announced a cut of one-half cent in the bulk retail price of Diesel at all points on the Pacific Coast and changed the tankcar delivery differential from 1½ cents to 1 cent. Marine delivery differential was changed from 1 cent to one-half cent. Stove oil prices were reduced 1½ cents with the above differential changes. This indicates the general weakness that has characterized Pacific Coast markets during the year. During September stocks of gas oil, Diesel, stove oil and burning oil increased 617,406 bbls. indicating a depressed demand and the stimulation of refining operations made necessary to take care of the storage situation.

The possibility that price recessions in crude and refined oil elsewhere will lead to sympathetic reductions on the Pacific Coast is conjectural. Much depends upon the ability of California marketers to move crude and refined oil at the going price. Practically all marketers have indicated they will not build any additional tankage and the critical stage may be reached within 60 days when the available storage is reduced to a minimum. The projected reciprocal agreement among smaller independent refiners and marketers operating under the California Fair Trade Act may be the deciding factor.

Oil Situation As Analyzed By New Jersey Standard

The current issue of the Lamp, published by the Standard Oil Co. (New Jersey), says:

It cannot be maintained that any one factor is wholly to blame for the industry's predicament, nor that any one purchaser initiated the price cut. Excessive refinery runs were one cause, to be sure, but heavy withdrawals from crude oil stocks and the pressure of flush oil from new fields were contributing causes. The price cuts, at first sporadic and widely separated over the producing areas, simply spread until they became general. In other words, the crude oil price structure just slowly disintegrated.

Resentment at price cuts is inevitable and natural. It is even understandable. The recent price cuts have been loudly denounced as a "blow below the belt" because they were made in the face of curtailment of production by proration authorities in the large producing states, so drastic as actually to have reduced crude oil stocks.

This viewpoint seems to overlook the fact that balance must be maintained between the supply and demand of products as well as of crude. Price is still the most potent factor in bringing about a balanced supply-demand relationship. It is not the function of state conservation authorities, nor of the Interstate Compact, to curtail production for the purpose of maintaining prices. Proration is concerned only with the prevention of physical waste in the interest of the consuming public, and with the maintenance of equity between competing producers. Prices are still free and must continue to be free to seek their own level, without reference to conservation efforts.

It would be useful to consider the problem of extricating the industry from the dilemma in which it now finds itself, with product prices so low as to threaten all profits in both producing and refining. Remedial policies should include:

1. A conservative program of runs to stills, avoiding so far as possible any excess of stocks.

2. The elimination, at least over the approaching season of low consumption, of heavy withdrawals from crude stocks—although it is, of course, true that the reduction of excessive stocks, generally speaking, makes for industrial stability. The recent nationwide survey by the Bureau of Mines for crude oil stocks showed them still to be above the best practical level.

3. Less insistent development of new flush oil fields. Rates of production in some of these new fields are certainly so high as to cause physical waste, and conservation measures to stop such waste should promptly be adopted and enforced. The new producing fields in Illinois constitute a case in point. Surely it behooves every producer in Illinois to support vigorously the effort to secure sound conservation laws for that state.

4. Most important, states producing flush oil which are not already members of the Interstate Compact, such as Illinois, Louisiana, Arkansas, Michigan, and California, should promptly become members. Some of these states still lack conservation laws and must enact such laws before they can enter the compact.

The statistical position is not so serious nor so far out of balance but that the petroleum industry can be restored to a profit basis, if only a conservative operating program is adopted and adhered to by producers and refiners alike during the year 1939.

Jersey Stock Dividend to Save Cost of Expansion

Standard Oil Co. (New Jersey) has declared the regular cash dividend of 50 cents per share and an extra of three shares of common for each 200 shares owned, payable December 15 to owners of record on November 16.

President W. S. Farish said the stock dividend was the result of need for cash for capital expenditures, which are running at an annual rate of $195,000,000. He said a company engaged in the development of a natural resource such as petroleum for which the demand has rapidly increased is repeatedly faced with the necessity of providing large amounts of new capital for development if it is to maintain its relative position in the industry and meet its obligations to serve the public. During the prolonged depression when the company did not enjoy normal earnings it was necessary to postpone part of its modernization program and on this account the present need for large capital expenditures became accentuated.

"In order to do our part in stimulating business recovery and providing greater employment, the directors consider it desirable now to authorize the completion of these deferred capital expenditures.

"Over the three-year period from 1935 to 1937, inclusive, the Standard Oil Co. (New Jersey) and its consolidated subsidiaries had available from depreciation, depletion, amortization and retirement an average amount of $115,000,000 per annum. At the present time the company is faced with the necessity of spending at the rate of $195,000,000 per annum for the maintenance and replacement and extension of its plant equipment and properties. Consequently it would appear that to meet these outlays a sum in the neighborhood of $80,000,000 must come yearly from earnings. The latter have averaged over the three years in question about $140,000,000 per annum in the consolidated income account before deduction of amounts applicable to minority interests in common stock.

"If $80,000,000 be deducted from this figure there is available $60,000,000 for past dividends to the stockholders of the parent company and to minority stockholders of its subsidiaries, whereas in the past three years such past dividends have averaged $82,000,000 per annum. It is apparent, therefore, that the company must either conserve its cash or face the necessity of further borrowing.

"Last August there were sold to public $85,000,000 of debentures and notes which increased the parent company's funded debt to a total of $170,000,000. In addition to this sum approximately $78,000,000 has been borrowed by the parent company from trustees of the annuity trusts and the directors feel it is not now desirable to borrow additional funds. Consequently it has been decided to limit the cash payment to the regular semiannual dividend, namely, 50 cents on each $25 par value share of capital stock which will result in a total cash disbursement of somewhat more than $13,000,000. However, as the earnings of the company appear to justify an additional payment, an extra dividend has been declared at the rate of three shares of capital stock $25 par value for each 200 shares of Standard Oil Co. of New Jersey now held."

It is hoped that decision of directors will meet with approval of stockholders, concluded Mr. Farish, as being best suited to maintain the company in a strong financial position.

Eastern Kansas Stripper Wells Threatened With No Market

A hearing on the decision of Sinclair Prairie Oil Marketing Co. to cease purchasing crude in the stripper area of southeastern Kansas will be held before the Kansas Corporation Commission in Topeka November 11. Prior to the hearing, officials of the Sinclair Prairie company will confer with Governor Huxman regarding the stripper situation.

In a temporary order last week, the Corporation Commission directed the company to continue its purchases until the November 11 hearing. The order was issued on petition of E. W. Hayes and D. C. Rood, representing the Montgomery County Independent Producers Association.

The order raises a new question and would test the commission's power under the conservation statute to prevent waste, according to E. R. Sloan, chairman of the commission. The legal question involved is whether the state has authority to stop waste by forcing the taking of oil as well as preventing waste by prorating oil production in the larger fields of the state. Commission officials said they expected to make a real test of the stripper situation if the company insisted on ceasing its purchases.

Company officials indicated they would await the hearing before disconnecting additional wells, but insisted they could not be compelled to buy oil they did not want. Much of the stripper oil is of low gravity and not suited to the company's needs, they said. The company plans to resume taking oil from some wells already disconnected but with connections still in place and where the oil is of satisfactory grade, it was said.

There are approximately 10,000 wells in the southeastern stripper area, producing about 11,000 bbls. of oil daily, but Sinclair Prairie is not the only purchaser in the area.

Wildcat in Leon County, Texas, Produces From Woodbine Sand

J. K. Hughes, Richards & Holloway No. 1 Sam Banes, wildcat, in Leon County, Texas, first reported to be good for 1,000 bbls. per day, was flowing about 125 bbls. per day through tubing on Monday. It is a mile and a half south of the town of Kechi. The well is producing from the Woodbine sand at a total depth of 5,895 feet. The oil is black and has a gravity of 27 degrees.

Method of Taking Cayuga Field Potentials Revised at Hearing

AUSTIN, Tex.—Method of measuring potentials of flowing wells in the Cayuga field, Henderson and Anderson counties, was revised last week by the Railroad Commission in conformity to an agreed proposal of operators. Potentials on flowing wells will be taken for 24 hours through one-eighth inch positive choke 3 inches long and for the proration purposes converted to the equivalent of a test on a quarter-inch choke. No change was made in the method of taking potentials of pumping wells. The operators likewise agreed in retaining the proration formula of 50 per cent on potential and 50 per cent on acreage for allocating the allowable after deducting for high gas-oil ratio wells and those incapable of making their allowable.

New Jersey Price Cutting Law Upheld

NEW YORK.—The New Jersey motor fuel law enacted early this year forbidding sale of gasoline at less than the posted price was upheld last week in the second case of its type to reach the state courts.

THE MARKETS*

CRUDE OIL: *A moderately better tone pervades the crude market, largely as a result of continuation of the Saturday and Sunday shutdown in Texas, holding of Oklahoma's November allowable at the October level by the state Corporation Commission, and action in the right direction in both Louisiana and Arkansas, all tending to lessen fear of further crude price reductions. Substantial quantities of oil still are being sold at prices below those posted.*

REFINERY: *Notwithstanding an exceptionally high rate of consumption, gasoline prices continue unsteady. The heating oils, owing to generally mild weather, have not gained the strength they ordinarily exhibit in November. Increasing industrial activity is imparting a somewhat better tone to the heavy fuels. Natural gasoline much firmer.*

TANK-WAGON AND POSTED DEALER: *Only minor changes reported, and these in scattered areas to make needed local adjustments in gasoline prices.*

FINANCIAL: *Further declines were recorded in the oil shares, which seem to have been under speculative pressure. Average of 30 representative stocks for week ending October 29: High, 29.40; low, 28.10; close, 28.36. Week ending October 22: High, 29.14; low, 27.29; close, 28.78.*

**Detailed information in Market Section.*

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Answer Expected

Although Colonel Thompson's account of his interview with President Roosevelt caused an overnight rebound from the anxiety in the industry following the crude price cut, it was not to be expected that the indicated remedy could be applied immediately.

The President, in effect, simply invited the industry to present a program. The call for the meeting of the Western Petroleum Refiners Association at Fort Worth followed, with appointment of a committee to confer with a committee of the Independent Petroleum Association of America at Fort Worth November 11.

Some newspaper accounts reported that refiners, having Madison in mind, were loth to take up the matter until Congress passed a law permitting them to do so.

Either this was an error or it was a mistaken attitude. The President having invited cooperation, the industry's failure to cooperate would give the advocates of federal control just what they seek. He expects an answer.

The oil situation having attracted presidential attention, it may be expected that bills will be thrown into Congress to regulate the industry, mostly inimical to it.

For self-protection the industry should agree upon a program that will acknowledge the President's invitation and at the same time avoid federal control.

Resentment at price cuts, admitted to be "inevitable, natural and even understandable," has fanned a lot of emotional talk about federal control, but what is meant is control of the other fellow, ignoring the fact that the control would include everybody.

Oil men, majors or independents, do not want that sort of control. They believe firmly that, if permitted, they can solve their problems by self-regulation without infringing upon the rights of the public.

It has not been asserted that regulation by the producing industry under the interstate compact has in any way injured the consumer. The industry, so far from being a profiteer, has, by efficiency, reduced the price of gasoline so that although the tax collector now gets as much as the refiner, the motorist is paying only about half what he paid 18 years ago.

Any notion that the industry cannot be trusted to regulate itself lest it gouge the public is disproved by the record. And the government always has power to protect the consumer.

Federal control of the oil industry is not needed by the public. It is not needed by the industry, which needs only to be allowed to work out its problems.

Conservative runs to stills, elimination of heavy withdrawals from crude stocks during periods of low consumption, and orderly development of flush fields are suggested as essential to solution of these problems and attainable by self-regulation, if permitted.

The industry has the opportunity in the President's invitation to put its case before him and learn definitely just what it will be permitted to do. But first it must agree upon a program of its own which will be workable.

This program must not be the product of wishful thinking, but of practical consideration, taking in all sides of the question. Each proposed step must have definite terminal facilities.

It will not do to formulate a general scheme which has no chance of general participation. Yet it must be more than local, since the results must be nation-wide. The effects of overproduction elsewhere upon states following a conservation program is a case in point.

If federal control is forced by overproduction the states overproducing will find it a harsher curb than voluntary curtailment could ever be. They should think of that.

Programs and Meetings

Program for A.A.P.G. Meeting Of Pacific Coast Section

Following is the program for the meeting of the Pacific Coast section of the A.A.P.G. at the Biltmore, Los Angeles, November 3 and 4:

"Progress of the Geologic Branch of the State Division of Mines," by Olaf P. Jenkins.

"Correlations of Crude Oils," by Donald C. Barton.

Informal Symposium on Recent Petroleum Discoveries in California.

These are extemporaneous papers on areas of current interest and they are not intended for final publication at this time. Discussion is invited but deference should be given to the fact that insufficient information is available on many of these for final conclusions to be reached.

"Newhall-Potrero Field," by Richard W. Sherman.

"Rio Bravo Oil Field," by E. B. Noble.

"A Possible Structural Interpretation of the Area of New Development at Rosecrans," by Jan Law.

(*a*) "Northwestern Extension of the Long Beach Oil Field," by Robbin Willis. (*b*) "New Development at the Potrero Oil Field," by Robbin Willis.

"West Montebello Oil Field," by F. M. Ziegler.

"Eastern Extension of the Wilmington Oil Field," by E. J. Bartosh.

"East Side Coalinga Extension," by L. S. Chambers.

"Canal Oil Field," by Clayton Stevens and T. K. Bowles.

"New Development in the Southeastern Extension of the Torrance Oil Field," by R. G. Reese.

"Source of Upper Cretaceous Strata of Diablo Range," by Ralph D. Reed.

"The Nature and Extent of Movement Along the San Cayetano Fault, Ventura County, California," by H. D. Hobson.

"Notes on the Santa Susana Thrust Fault, Los Angeles County, California," by C. E. Leach and J. C. May.

"Stratigraphy of Northern Iran," by Hubert G. Schenck.

"Structural Trends Off the California Coast," by Francis P. Shepard.

"Miocene-Pliocene Boundary," by John H. Maxon.

"Geomorphic Provinces of California as Outlined on the New State Geologic May," by Olaf P. Jenkins.

"An Exposure of the Red Mountain Fault, Ventura County," by Mason L. Hill and M. L. Natland.

"Phosphorite on the Sea Floor Off Southern California," by Robert S. Dietz and K. O. Emery.

"Significanse of Tertiary Mammalian Faunas in Holarctic Correlation," by R. A. Stirton, introduced by B. L. Clark.

Purchasing Agents Association

In an address to the Purchasing Agents Association of Tulsa, Joseph H. Nicholson, purchasing agent for the city of Milwaukee, said a saving of approximately 15 per cent on the gross purchases made by the city of Tulsa could be effected providing the municipality sets up a centralized purchasing plan. Nicholson said the operating costs of his department were approximately $20,000 annually or about 1 per cent of the gross purchases.

Fire and Accident Prevention Group of N.P.A. Meets

"Selling the Economy of Fire and Accident Prevention to the Petroleum Industry," a paper delivered by Frank W. Lovejoy, director of sales, Socony-Vacuum Oil Co., New York, was the feature of the semi-annual meeting of the Department of Fire and Accident Prevention of the National Petroleum Association held at the Olean, N. Y., plant of Socony-Vacuum Oil Co. last week. Seventy-five refinery men from Olean to Pittsburgh attended.

Mr. Lovejoy, who spoke in the absence of E. J. Senne, director of safety work for Socony-Vacuum, emphasized the necessity of selling belief in safety measures to executives, superintendents, and foremen who in turn sell the subject to employes. Mr. Lovejoy suggested use of short, to-the-point safety slogans on placards illustrated in flaming red, a color which, he said, was better than blue, orange or purple in its appeal and ability to catch the eye.

His talk was made during the afternoon session, presided over by Charles Lindberg, of HyVis Oils, Inc., Warren, Pa., president of the department. A moving picture, "A Refinery Fire," was shown. A short talk made by L. D. Fulton, plant superintendent, Pennzoil Co., Oil City, in the absence of C. L. Suhr, chairman of the board and National Petroleum Association trustee in charge of the department.

In the morning a competitive inspection of portions of the Socony-Vacuum refinery by teams selected from each of the refinery-inspection groups was held. Team No. 3, representing the Bradford group, was first with 72 merit marks; Team No. 1, Oil City-Butler group, second, 53; Team No. 4, Warren group, third, 47, and Team No. 3, Pittsburgh group, fourth, 19.

The Socony-Vacuum Oil Co. was host to the group. The 1939 annual meeting will be held in Pittsburgh in mid-June.

Institute of Petroleum Dinner

The American members of the Institute of Petroleum, London, will hold a dinner meeting in Chicago during the American Petroleum Institute meeting, at 6 p.m., November 16, at the Stevens Hotel. Dr. J. Bennett Hill, Sun Oil Co., will preside.

Theron Wasson, Pure Oil Co., will speak on the new fields in Illinois. Dr. E. C. Williams, Shell Development Co., will discuss "Modern Research Angles in Oil," Dr. Gustav Egloff, Universal Oil Products Co., "Substitute Motor Fuels Over Europe," and Dr. F. H. Lahee, Sun Oil Co., "Geology and Deep Well Drilling."

Fifty-ninth Annual Meeting of A.S.M.E. December 5-9

Presenting the latest developments in machine tools, steam power, aeronautics, management, safety, metals, fuels, instruments, textiles, hydraulics, lubrication, railroads, research, and ordinance, the fifty-ninth annual meeting of the American Society of Mechanical Engineers will be held at the Engineering Societies Building in New York, December 5-9. The tentative program includes the following:

Tuesday, December 6

9:30 a.m. Pipe stress problems: The Determination of the Expansion Forces in Piping by Model Tests, by H. W. Semar. Progress Report on Creep Tests of Tubular Members. Progress Report on Relaxation Tests. Iron and steel: Hard Surfacing Processes and Materials, by M. L. Begeman. Some Observations on Yield Point of Low-Carbon Steel, by Joseph Winlock and R. W. E. Leiter.

12:30 p.m. Maintenance luncheon of the management division.

2:00 p.m. Power fuels: Modern Boiler Furnaces, by E. G. Bailey. Report of Boiler Feedwater Studies Committee, by C. H. Fellows.

Wednesday, December 7

9:30 a.m. Oil and gas power: Five Years Progress of Oil and Gas Power, by H. E. Degler. The Vectorscope—a New Instrument Useful in the Solution of Problems Pertinent to Study and Design of Internal-Combustion Engines, by G. J. Dashefsky.

2:00 p.m. Hydraulics: Investigation of Error in Pitot Tubes, by Clyde W. Hubbard. Pitot Tubes in Large Pipes, by E. S. Cole and E. Shaw Cole. Lubrication: Thin Oil Films, by Walter Claypoole. Wear in Lubrication Problems, by L. M. Tichvinsky. Power fuels: The High-Pressure High-Temperature Turbine-Electric Steamship *J. W. VanDyke*, by L. M. Goldsmith. Industrial Power Plants, by C. W. E. Clark.

6:30 p.m. Annual banquet and president's reception, Hotel Astor.

Thursday, December 8

9:30 a.m. Fluid meters: Influence of Steam-Flow Metering Equipment on Piping Design, by R. M. Van Duzer, Jr. Effect of High Temperatures and Pressures on Cast-Steel Venturi Tubes, by W. S. Pardoe. Coefficients of Orifices and Nozzles With Free and Also Submerged Discharge, by R. G. Folsom. Effect of Pulsations on Orifice Meters, by S. R. Beitler. Review of Flow-Nozzle Research With Oil, by E. E. Ambrosius. Pulsating Air Velocity Measurement, by Neil P. Bailey.

2:00 p.m. High-temperature problems: High-Temperature-Steam Experience at Detroit, by R. M. Van Duzer, Jr., and Arthur McCutchan. Changes in a High-Pressure Drum to Eliminate Recurrence of Cracks Due to Corrosion Fatigue, by A. E. White.

CALENDAR

November.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, regional meeting, Tucson, Ariz., Nov. 1-5.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific Section, Los Angeles, Nov. 3-4.

KANSAS-OKLAHOMA Division, Mid-Continent Oil and Gas Association, Tulsa, Nov. 3.

AMERICAN PETROLEUM INSTITUTE, annual meeting, Chicago, Stevens Hotel, Nov. 14-18.

December.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, Dec. 5-9.

February, 1939.

NATIONAL ASPHALT CONFERENCE, Los Angeles, Calif., week of February 27.

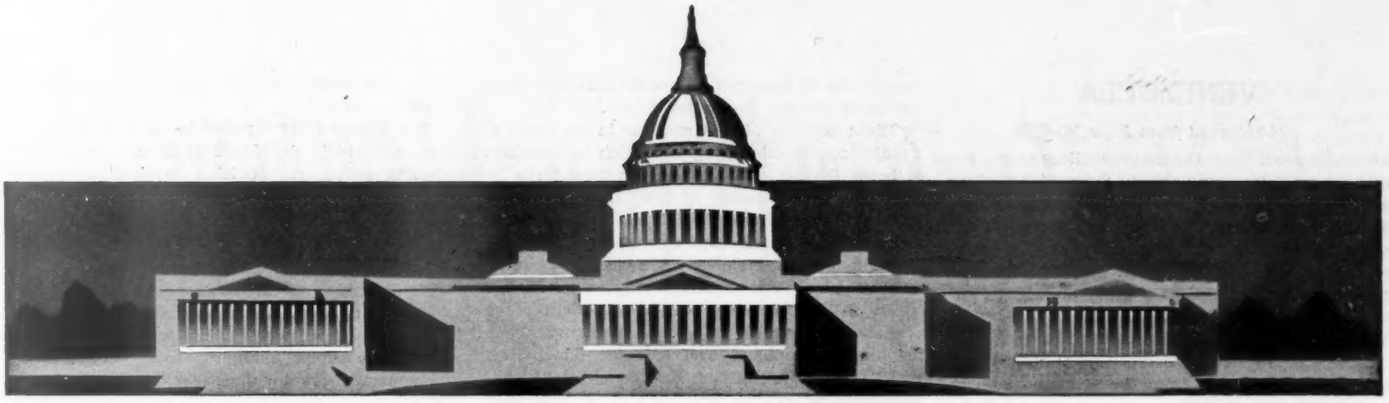
March.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Oklahoma City, Okla., March 22-24.

April.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 13-14.

OIL-WORLD EXPOSITION, Houston, Tex., April 24-29.



Oil Is Among the First Subjects to Be Studied by T. N. E. C.

By HENRY D. RALPH

WASHINGTON, D. C., Oct. 31.—The persistent reports that the oil industry will be among the first subjects of public study by the temporary national economic committee has been fairly well substantiated by fragmentary information from official sources.

Opening hearings in the study, which the committee insists should not be called "the monopoly investigation," are tentatively scheduled for November 14 in Washington and certainly will start before December 1. Oil witnesses will not be called immediately, but preparations are being made to schedule them fairly early in the proceedings, possibly by the middle of December.

Of the six executive departments and agencies having membership on the committee, the Antitrust Division of the Department of Justice has been delegated the task of rounding up the information to be presented on the oil industry. The division has not only prosecuted oil antitrust cases during recent years but has conducted almost continuous investigations into complaints about practices in the oil industry and therefore was thought to be the best equipped to conduct this phase of the general study. The division has recently increased its staff by 45 new attorneys and economists, many of whom are working on material for the T.N.E.C.

Not Grand Jury

All the members of the committee and its staff who have made any public statements have insisted that the committee is not looking for specific violations of law and will not operate as a grand jury, and that whenever any industry is singled out for specific inquiry it means only that industry is a good laboratory specimen for the study of a particular set of economic practices. This seems to be the true attitude of the investigators, although Department of Justice officials have said that if instances of flagrant violations of the antitrust laws are uncovered it will be their duty to prosecute them.

The oil industry is "a natural" as a laboratory specimen for almost any type of economic study. It will be examined from the standpoint of conservation problems of a natural resource industry, competitive relationships of large and small operators in production, refining and distribution, patent pooling and licensing, control of pipe lines, degree of integration, relationships with subsidiary corporations, excessive number of filling stations, price control, influence of conservation and proration measures on price and production, and other economic problems.

No list of oil witnesses has yet been announced, but it is no secret the department has received offers of assistance from some of the perennial critics and complainants against conditions in the oil industry, and several of these may be put on the stand. This knowledge has been rather perturbing to oil company executives, but committee staff members insist the investigation will not rest with the complaints and suggested remedies of critics but that the industry will have ample opportunity to answer all such complaints and also that the committee will hear government officials who are familiar with the industry and recognized authorities outside the Government.

Every effort will be made to keep crackpots and soreheads out of the hearings. It is insisted, however, that if a man has what appears to be a legitimate complaint of some business practice which is contrary to the general welfare he will be heard. As a precaution, it is the intention to swear all witnesses to keep the record free from untruths and statements which cannot be substantiated. Also, all witnesses will be subpoenaed, even those who clamor to appear, so witnesses will be under the complete control of the committee.

The first hearings will be of a general nature, not related to any particular industry. The experts of the committee's staff and the various cooperating departments will outline the scope of the investigation and relate some of the main problems to be attacked. Just what form this will take has not been definitely decided since the research is proceeding along many lines and some parts are more advanced than others, but it is promised that after the first few days of the hearings the record will be in the nature of a general textbook on economics. Broad subjects will be outlined, particularly the theme that American business, for all its technical efficiency in production, is somehow incapable of distributing its products widely enough to reach all potential consumers, to prevent the accumulation of surpluses, to keep employment stabilized, and to maintain a higher standard of living for the entire country. Some of the business practices which may be responsible for this situation will then be listed, and methods of studying them outlined.

Following this general introduction, the committee will start hearings on specific phases of the problem of locating the defects in the economic machine. It is fairly well settled patent laws and practices will be the first subject to be taken up, and that the glass industry will be used as the first example. The departments of Commerce and Justice are well along with the patent study, and subpoenas for records and documents have already gone out to several concerns in the glass industry. The part which patent licenses have played in the trend of development in the glass industry is said to be a good illustration of the general problem, but undoubtedly the patent situation in the oil and other industries will be examined also. It would not be surprising if one of the first recommendations the T.N.E.C. makes to Congress deals with amendments to the patent laws to prevent undue control of the use of patents through licenses. This is indicated by the action of the Department of Justice in asking the Supreme Court to reverse its decision of last spring in the radio vacuum tube case in which the court gave its sanction to a form of license agreement controlling the use to which patented products may be put. The outcome of the pending antitrust suit against the Ethyl Gasoline Corp. may also have some influence on recommending changes in the patent laws.

Legislative Proposals

Other legislative proposals may be submitted to Congress from time to time as the investigation proceeds without waiting for its completion. There have been many complaints that much recent business legislation, such as the Robinson-Patman and Tydings-Miller laws, should have been applied specifically to a few lines of business rather than made general. There is a growing indication that the antitrust and kindred laws affecting business may be revised piecemeal to fit particular situations as developed by the investigations of the T.N.E.C. This might very well mean special oil laws; for example, a law divorcing major oil companies from one of their principal functions rather than a general law preventing a producer from engaging in retail distribution as has been proposed.

VENEZUELA

(Continued from Page 16)

an active area. Here the native drilling crews are making records comparable to those of American crews in the states. Due to the level country it is possible to skid derricks from one location to another. The engine base, engine and engine house are skidded in one piece. The slush pumps and pipe racks are skidded as another unit. The complete rig move is being accomplished in 30 hours. Wells are drilled in approximately 15 days.

The company is now completing another camp located about 5 miles from the present camp, to be known as Mata Vemado. This camp will be a complete unit similar in layout to the one here at Caripito. Houses are being built of concrete blocks manufactured by the company.

Oficina

From here a drive of 125 miles was made to the Oficina camp of the Mene Grande Oil Co., the Venezuelan unit of the Gulf Oil Corp., which has large production in Lake Maracaibo district. The trip there was over rough sandy roads. One could easily imagine he was making a trip through West Texas before the advent of improved highways. An occasional wildcat test could be seen and we passed two locations where unsuccessful tests have been drilled.

The Oficina development and that of the surrounding area in many respects is the most interesting in all Venezuela and within another year if the present program is completed, 50,000 or more barrels daily of new production will be available from the field at new terminals now under construction near Guanta on the Caribbean Sea.

Oficina has been brought to its present state of development by the Mene Grande company over a period of several years. Actual drilling was preceded by prolonged seismograph work in this area followed by the acquisition of likely concessions, one of which is said to have cost the company $4,000,000. The Oficina No. 1 first began to attract attention in 1933 but the significance of this and other tests was not known until late last year when a deal covering future development and the marketing of the oil was made with the International Petroleum Co., Ltd., subsidiary of the Imperial Oil, Ltd., in turn a unit of the Standard Oil Co. of New Jersey.

An official summary of this transaction, one of the largest in recent years, follows:

"In December, 1937, International Petroleum Co., Ltd., a subsidiary of the Imperial Oil, Ltd., contracted with Mene Grande Oil Co., C.A., the owner of petroleum rights on lands in eastern and western Venezuela, for the purchase of one-half of all the oil thereafter produced from such lands by the latter company and for the acquisition of an undivided one-half interest in the equipment and installations used by the latter company in the development and production of such lands. International Petroleum Co., Ltd., also obtained the right to acquire at cost, an undivided one-half interest in all concessions, interest in concessions or interest in production thereafter acquired by the Mene Grande Oil Co., C.A., in Venezuela. An advance payment of $25,000,000 was made by the International Petroleum Co. to the Mene Grande company in December, 1937. International Petroleum Co., Ltd., shares equally in the actual expenses for development and operation."

Several million barrels of oil have been delivered to the International company since this contract became effective, the oil coming from lake properties of Mene Grande.

This agreement gives Mene Grande a much-needed outlet for crude through the International company, which supplies a part of the crude requirements of Imperial and other Standard units operating outside the United States.

Right now the Mene Grande is in the midst of a major construction program which is scheduled to bring Oficina crude to Guanta through a 16-inch line by September 1, 1939. The Oficina development at present consists of five producing wells which are shut in, with six active rigs drilling. The proven area covers a section about 3 miles square. The drilling program calls for steady drilling so there will be sufficient crude available for regular shipments to Guanta when the line is completed. The 100-mile 16-inch line, with one pumping station in the field, will have a capacity of 100,000 bbls. daily. With one additional pump station it is said this can be increased to 160,000 bbls. daily. The crude is exceptional in that it runs from 37° to 40° A.P.I. gravity.

Present production is coming from an average depth of 5,700 feet. It is said other production has been found in both deeper and shallower depths and these will be developed later.

About 8 miles from the present camp, the company has started the construction of another camp which will be headquarters for the company's operations in this territory. It is understood approximately $2,000,000 will be spent in this camp, including offices, homes, shops, public utilities and all the other facilities needed in a major operation located in an isolated area.

The company has other important operations in this territory with large concessions for further exploratory work. About 25 miles northwest of here, at Santa Ana, the company has gas-distillate production at 7,500 feet. Two rigs are running in that area. The company also found low-gravity production at El Tigre, about 20 miles east of here. In the Santa Ana area Texas Petroleum Co. is to start its first test in Venezuela.

An airplane flight from here to Guanta gave further evidence of the tremendous expenditures which must be made by companies before oil is available for marketing. In the case of the Mene Grande eastern Venezuelan operations, it is estimated $25,000,000 will be spent before a barrel of oil is marketed.

The airplane flight paralleled the 100 miles of highway which the Mene Grande company is building north from Oficina to Guanta on the coast. The company is bearing the entire expense of this improvement which will be public highway when completed. The estimated cost is around $2,000,000.

At the start of the flight bottoms for four 96,000-bbl. tanks under construction at the field pipe line terminal were visible as was the layout of the new camp. Along the road were several camps of workers now busily engaged completing the highway along which will also run the pipe line. It was necessary to clear heavily wooded sections over part of the route and the last 15 to 20 miles lie across a mountain range which has been impassable for highway construction in the past. Close to a half million dollars' worth of road construction equipment is now at work on this highway.

Work on the terminal near Guanta is just starting. This deep-sea terminal, with a capacity to load at the rate of 22,000 bbls. daily, will be the largest and most complete in Venezuela.

Quiriquire Field

The Quiriquire development is now on a settled development basis with its probable producing areas presumably outlined. Present production of 70,000 bbls. daily is coming from 247 wells, 209 of which are flowing and the remainder pumping. The proven area totals 12,700 acres with 150 wells yet to be drilled, with three rigs in operation. The oil comes from numerous sand lenses in the Pliocene with a shoreline structure. The production is obtained from depths ranging from 1,800 to 3,250 feet. The gravity of the crude is 18.7° A.P.I.

An unusual operation is the drilling of twin wells in those sections of the field where the producing horizons are exceptionally thick. The first well is drilled completely through the formation and after an electrical log is obtained the well is completed with the upper zone cased off. The rig is then skidded to the derrick for the twin location, approximately 30 feet from the first hole and the second hole completed to produce from the upper zone. The same location for boilers, pumps and pits is used for two wells.

Wildcat Operations

Geological knowledge of this region is largely confined to information obtained by geophysics and correlation of logs from the wells drilled in proven and exploratory areas. The area is covered by the Llanos formation, consisting of a thick blanket of Pleistocene and recent deposits. Exposures of the older rocks which are determining the limits of exploration are seen in the extreme north and south portions.

There are several wildcat tests drilling over an area that extends from the Delta Amacuro on the east to tests east of the present Oficina development. The whole area is being combed by seismograph crews, several of which are making surveys at this time. In addition to the companies mentioned previously, the following companies have extensive holdings and either now have drilling under way or expect to have during 1938: Socony-Vacuum Oil Co., Texas Co., Sinclair interests and Pantepec Oil Co. of Venezuela. Standard of Venezuela has been carrying on drilling operations on part of the holdings of the Pantepec company, including associated companies. Six tests have been drilled or are now drilling and additional tests will be drilled under a contract arrangement which provides for the drilling of 20 tests.

Obituaries

DONALD I. CAMPBELL, 32, former resident of Big Spring and well known in West Texas oil circles, died last week at Houston. He was connected with Shell Petroleum Corp.

D. L. LEWIS, 50, Lockhart, Tex., oil well contractor, died in a Luling hospital several hours after his automobile overturned on the highway.

STEPHEN P. WORTHINGSON, president of Tiona Petroleum Co. of Philadelphia, Pa., died October 26 in Fredericksburg, Va., where he maintained a summer home.

FRED W. JACKSON, 78, Butler County, Pennsylvania, oil producer, died at Phillipsburg, Pa., last week. He had been a resident of Chicora for 60 years.

VAN P. WELCH, of Artesia, N. M., died at Rochester, Minn., recently. He was one of the organizers of the I.P.A.A. He was a member of the firm of Flynn, Welch & Yates, of Artesia, and was the eldest son of Van S. Welch.

P. M. BERWALD, who pioneered in the development of the Eastern Kentucky fields and later became a Pennsylvania producer, died recently in Bradford, Pa.

STATE CAPITALS

State capitol, Lansing, Michigan

ARKANSAS

ALLOWABLE PRODUCTION IN ARKANSAS in November will be 52,000 bbls. per day, according to A. M. Crowell, chief conservation agent of that state. Miller County (Rodessa) allowable will be 5,974 bbls., of which lower Gloyd horizon is allowed 4,350 bbls. and upper Gloyd 1,624 bbls. In the Schuler field the 95 Jones sand wells were allowed 15,000 bbls. production per day, and 5 wells from the Permian lime 1,000 bbls. Wells in the Magnolia and Buckner fields were given a top allowable of 200 bbls. per day each. Smackover, El Dorado and other old fields are not prorated.

KANSAS

KANSAS CORPORATION COMMISSION decided at last Thursday's marketing demand hearing to take under advisement the matter of the state's allowable production in November. E. G. Dahlgren, conservation director, announced at the hearing that November purchase nominations totaled 153,000 bbls. daily, or 2,386 bbls. less than the October demand and 11,000 bbls. daily below the Bureau of Mines estimate of demand.

The commission did the unusual in permitting the introduction of the price factor into testimony at the hearing.

W. P. Z. German, general counsel for Skelly Oil Co., asked J. A. Vickers, Wichita, president of Vickers Petroleum Co., what price the latter intended to pay for crude nominated in the Ubert pool of Ellis County.

Mr. Vickers replied that his company would "pay the posted price" for oil purchased under its nomination. Asked by Mr. German if the "posted price" was not under the "prevailing price" for the areas in which the oil would be taken, Mr. Vickers replied "there is no prevailing price in Kansas," explaining that prices ranged from 72 cents in the Otis Albert pool of Rush County to $1 at Wellington in Sumner County, and as high as $1.10 in other places. Mr. Vickers said later that his company's price in some pools was under that posted by other purchasers.

"We pay 18½ times the Chicago Journal of Commerce quotations for 72-octane gasoline, corrected for gravity differential. This was the basis used during the days of the NRA, by the Mid-Continent oil industry," he said.

Mr. Vickers claimed that he was being undersold by other companies in places including Kansas City, Mo., and that this condition has affected the price he could pay for crude oil and attempt to operate at a reasonable profit. He said that "the price I am paying for crude is based on the price for refinery products which I must sell on the open market in competition with other refiners."

TEXAS

A PRORATION HEARING was set for November 18 by the Railroad Commission, at which time evidence for determining the December state allowable will be heard. Special subject for the meeting will be the studying of refinery and natural gasoline regulations and reports. In regard to the proposed regulations the order stated: ". . . the commission will hear evidence for the purpose of determining whether or not it is possible for the operators of refineries and natural gasoline plants in the state to make accurate reports to the commission, and for the commission to make accurate checks of the operations in such refineries and natural gasoline plants with the equipment which is now installed and available in such plants, and

"Whether or not additional tanks should be installed for measuring all crude oil and other petroleum products taken into said refineries and all finished products of said refineries, and

"Whether or not additional meters should be installed for the purpose of determining the volume of gas taken into the natural gasoline plants and the volume of residue gas leaving such natural gasoline plants, and

"Whether or not additional tanks should be provided for measuring the gasoline produced in said natural gasoline plants."

NOTICES OF HEARINGS issued by the commission last week included: Hearing on the Goldsmith field of Ector County, November 9; hearing on the League City field of Galveston County, November 7; hearings on the Slaughter and Wasson fields of Gaines, Yoakum and Hockley counties, postponed from November 4 to November 17; hearing on condensate wells postponed from November 14 to November 22; hearing on forms which have been revised by a special committee of the Mid-Continent Oil and Gas Association, November 28. On application of the Sun Oil Co. the commission called a hearing for November 5 to hear evidence in regard to Sun returning salt water to the base of the Woodbine sand in the East Texas field. Sun seeks to return salt water produced from any one or all of its East Texas wells through the company's No. B-38 H. A. Pace well in Juan Vargas Survey.

OKLAHOMA

NO CHANGE WAS MADE in the allowable production of Oklahoma in November. The October allowable of 428,000 bbls. per day was continued by the Oklahoma Corporation Commission.

TWO CASES OF UNUSUAL INTEREST to Oklahoma operators because of conditions in the industry and establishment of pipe line proration in some Oklahoma pools are pending. Cox & Hamon, Inc., alleged in a petition before the Corporation Commission that the Rock Island Refining Co. had refused to take oil ratably in the Tussy field, and cited the Common Purchasers Pipe Line Act. A court test of the act apparently has started in Carter County, where Rockland Oil and Sarasota Oil companies have filed state District Court suits against Magnolia Petroleum and Magnolia Pipe Line companies. They charge the Magnolia companies refused to make connections to their leases, although running oil from offset leases in the southern Oklahoma field. A mandamus is sought.

CALIFORNIA

CALIFORNIA'S CRUDE OIL ALLOTMENT for the month of November was set at 610,000 bbls. per day by the Central Committee of California Oil Producers, with a tolerance of 5,000 bbls. to take care of contingencies. Stocks are accumulating at the rate of 90,000 bbls. per day with more than 25,000,000 bbls. put into storage in the first nine months of the year and there is a probability that 30,000,000 bbls. will be added during 1938 if production continues at its present rate. Conservative operators and a number of refiners and marketers had anticipated a reduction in the allowable last month but the committee made no change in either September or October.

LOUISIANA

ALLOWABLE PRODUCTION in Louisiana was reduced to 235,000 bbls. a day in November, a drop of 13,400 bbls. per day from the allowable in October. It had been generally expected that the Conservation Commission would make a reduction of 20,000 bbls. in North Louisiana and 20,000 bbls. in coastal Louisiana. Rodessa is allowed 31,000 bbls. per day, in November; Cotton Valley, 4,750 bbls.; Lisbon, 6,000 bbls., and all other North Louisiana pools a total of 18,000 bbls., giving the area a total allowable of 60,350 bbls. per day. In South Louisiana the largest field, Evangeline, is allowed 19,350 bbls.; Iberia, 16,000 bbls.; Lafitte, 15,000 bbls.; Caillou Island, 14,850 bbls.; Iowa, 14,500 bbls., and all other fields 95,450 bbls. Total for South Louisiana is 175,150 bbls.

Refinery Expansion

Navy Gas & Supply Co. to Distribute California Products

A deal has been concluded between the California Co. (Standard Oil Co. of California) and the Navy Gas & Supply Co. by which the jobbing concern began November 1 the distribution of "Calso" gasoline and products in the State of Colorado where it maintains 454 outlets. In 1937 it was assessed gasoline taxes on 7,785,374 gallons by the state Motor Tax Division. The California Co. has gradually been building up its marketing outlets in the Rocky Mountain area for the past three years, and while it has developed considerable crude oil production, it has no refinery. Its crude at present is refined at the Parco plant of the Sinclair Refining Co. at Parco, Wyo.

The organization of the Navy Gas & Supply Co. will remain the same as in the past with W. E. Thomas, president, and Bert W. Kelly, executive vice president. Its stations are all under lease to the operators.

T. G. Travis, of San Francisco, assistant general sales manager for the California Co., with other officials, arrived in Denver this week to attend a sales conference with the Navy group and complete the agreement under which the change was made.

Decline of California Gasoline Sales Shown by Tax Report

SACRAMENTO.—Gasoline sales throughout California, as indicated by motor vehicle fuel tax revenue, dropped 5.43 per cent during September as compared with the same month of the previous year, the state Board of Equalization reported today.

Last month's tax amounted to $4,277,422.50 as compared with $4,523,409.84 reported for September, 1937. The month's income also was well below the tax of $4,742,539.08 reported for August of the current year.

The September gasoline tax was based on the distribution of 142,580,750 gallons of gasoline, or 8,199,577 gallons less than for September, 1937.

Oil companies reporting sales of more than 1,000,000 gallons in September were listed by the board:

Name—	Net taxable gallonage
Caminol Co., Ltd.	2,360,522
Century Oil Co.	1,326,591
Eagle Oil & Refining Co., Inc.	1,435,563
El Camino Refining Co.	1,059,262
Estado Petroleum Corp.	1,809,627
Exeter Refining Co.	1,503,268
General Petroleum Corp. of California	5,536,565
Hancock Oil Co. of California, The	3,767,245
Macmillan Petroleum Corp.	2,609,635
McCallen Refining Co.	1,162,912
Mohawk Petroleum Corp.	3,545,536
Norwalk Co.	1,566,190
Olympic Refining Co.	1,056,622
Pacific States Oils & Terminals	2,029,664
Richfield Oil Corp.	11,743,788
R. R. Bush Oil Co.	1,101,174
Seaside Oil Co.	1,319,526
Shell Oil Co.	17,447,729
Standard Oil Co. of California	26,963,956
St. Helens Petroleum Co., Ltd.	1,220,715
Texas Co.	7,753,882
Tide Water Associated Oil Co.	10,022,357
Union Oil Co. of California	13,993,399
Wilshire Oil Co., Inc.	7,997,414

Deny Possible Shortage of Calgary Gas Supply

CALGARY, Alberta.—In a recent statement to the city council, Canadian Western Natural Gas, Light, Heat & Power Co. denied reports of a possible gas shortage or an increase in rates. The company has arranged to drill two prospects within 100 miles of Calgary, has 11,250,000,000 feet of gas stored in the Bow Island field, and has the Foremost field in reserve. In addition, large gas reserves are available beyond the 100-mile radius.

Canadian Gas Production

OTTAWA, Ontario.—Natural gas production from all Canadian fields in July totaled 1,583,803,000 feet compared with 1,717,143,000 feet in June and 1,407,809,000 feet in July, 1937. For the seven months of 1938 Canadian production was 19,569,335,000 feet against 18,909,210,000 feet in the same period of 1937.

Imports of mixed (natural and artificial) gas into Canada in July totaled 10,475,000 feet valued at $6,842 against 10,372,000 feet valued at $6,656 in June.

Merger Will Result in Mixed Gas for Hamilton

HAMILTON, Ontario.—It is expected that, as a result of the merger of United Fuel Investments and Dominion Natural Gas Co. interests in the Hamilton area, a mixture of natural and artificial gas will be sold. Heretofore United Gas & Fuel Co. has sold manufactured gas to its customers in the main Hamilton area, and the Dominion Natural Gas Co. has sold natural gas to the Barton area. Union Gas Co. of Canada, Ltd., which controls the United interests, has considerable gas reserves in the nearby Haldimand field, and the Dominion Natural Gas Co. also will be a source of natural gas supply to the new combined system.

Talco Refinery Increases Cracking Equipment

The Talco Asphalt & Refining Co. has revamped its plant at Mount Pleasant, Tex., in order to convert one of the cracking coils into a reducing still; production of asphalt is thereby decreased from a 45 per cent to a 15 per cent yield and clean cracking stock can be provided for the cracking units.

Barnsdall to Store Crude for Osage Stripper Producers

A plan by which the Barnsdall Refining Corp. will provide a market outlet for 6,000 stripper wells in southeastern Osage and northern Tulsa counties was approved October 28 by members of the producers committee after an extended conference with President E. B. Reeser.

It is now up to the individual well owners to come in and sign a new division order with the Barnsdall Refining Corp. to have the firm resume the running of oil from the "approximately 6,000 wells" and deliver to the storage plant of the company at Barnsdall.

Under the plan just approved, the producer may have his oil run to storage at the Barnsdall refinery at Barnsdall, paying 12 cents gathering and transportation charge and 1 cent a barrel a month storage charge.

When the prices for refined oil products permit the reopening of the Barnsdall refinery, the company will pay the producers for the crude at the prevailing price schedule of the Standard Oil Co. of Indiana at $1.10 for 40 and above, and 2 cents a degree down to 86 cents a barrel for below 29 gravity.

The previous plan, which producers had accepted, but which the Osage tribal council refused because it set a precedent, called for a price of from 5 to 10 cents a barrel under Standard's prices.

Gas Conservation Plan to Aid Canadian Absorption Plants

CALGARY, Alberta.—A conservation plan for Turner Valley, designed to save gas and at the same time permit absorption plants to operate has been proposed by A. H. Mayland, president of Gas & Oil Products, Ltd., which operates a large absorption plant.

It is proposed that gas produced in connection with crude oil, estimated at 90,000,000 feet a day, be divided equally between the companies operating absorption plants, these being permitted to make up any deficiency in this total by drawing from naphtha wells; that residual gas from this source be used for Canadian Western Natural Gas Co. requirements; absorption plants to install at their own expense compressors to force back 11,000,000 feet of gas daily into the producing formation; and compensation to be paid naphtha producers for closing of their wells out of a charge against crude oil production.

Anglo-Iranian to Construct Refinery in Palestine

Anglo-Iranian Oil Co. plans the construction of a refinery at Haifa, or elsewhere, on the Mediterranean coast of Palestine, according to a convention signed by the company and the government last March, but which has only recently appeared in printed detail in the Palestine Gazette. Actual construction is reported planned in the near future with Anglo-Iranian and Royal Dutch-Shell participation. Preliminary plans call for a refinery of nearly 50,000 bbls. per day capacity.

When the convention permitting Anglo-Iranian or its assigns to construct a refinery was published, a previous convention between the same interests covering construction of a pipe line through Palestine dated October 19, 1936, was disclosed. On the company's part, it agrees to complete the construction of one refinery within five years from March 10, 1938. It is to have liberty to load and unload oil into vessels in the oil dock. For every ton (2,240 pounds) so loaded or unloaded in the oil dock (including bunkering) the company is to pay the government five pence (which includes all charges), but in the event of a vessel unloading within the oil dock mineral oil for bunkering vessels or the company's own use (including refining) and loading a fresh cargo of oil before leaving, there shall be one charge only, calculated on the larger cargo.

CONGRATULATES LAKIN

E. G. Seubert, president of Standard Oil Co. of Indiana, bids C. C. Lakin "good luck." Mr. Lakin has retired as head of the company's asphalt and road oil department.

Natural Gasoline

Tide Water Lets Contract For Additions to Plant

Additions to a gas recycling plant operated in connection with production of oil in the Cayuga field of Anderson, Freestone, and Henderson counties, in East Central Texas, will be built by the Tide Water Associated Oil Co. and the Seaboard Oil Co. which have let a contract to J. W. Pritchard & Co. The plant recovers gasoline from gas returned to the producing formations.

Permit for Cayuga Field Recycling Plant Asked

AUSTIN, Tex.—Hearing on the application of Roeser & Pendleton, Inc., for a permit to repressure the Woodbine formation in the Cayuga field, Anderson County, was set by the Railroad Commission for November 3. The company plans to repressure the Woodbine with residue gas taken from the Trinity formation.

Natural Gas News

F.E.A.P.W. Director Explains Authority of P.W.A.

FORT WORTH, Tex.—George M. Bull, regional director, Federal Emergency Administration of Public Works, referring to the application of El Paso, Tex., for a P.W.A. allotment for a municipal gas plant, says that due to a misunderstanding he was quoted as saying, "Under the rules of P.W.A., the city will have to make a reasonable offer for the existing distributing system. The P.W.A. is given authority to determine what is reasonable."

This statement, he says, would be true if the application was for an allotment for a municipally owned electric distribution system which would compete with privately owned facilities, but this policy of the P.W.A. regarding competitive electric projects does not extend to projects for gas-distribution systems.

Gas Pipe Line Extension Proposed in Michigan

SAGINAW, Mich.—Edwin C. Dailey, of Flint, representing the Natural Gas Pipeline Co., has asked the Michigan Public Utilities Commission for permission to construct a $14,000 pipe line from the gas fields of Home and Day townships, Montcalm County, to the village of Sheridan. He previously had been given permission to operate a line from the same source to the city of Stanton.

New York-Pennsylvania Gas Field Operations

COUDERSPORT, Pa.—One well was completed and locations were staked for four others in the Oriskany sand gas fields of New York and northern Pennsylvania. G. L. Cabot, Inc., well on the George Hotaling farm in Woodhull Township, Steuben County, was completed at a depth of 3,781 feet with an initial of 1,500,000 feet which was raised to 2,000,000 feet with a 20-quart shot. The Oriskany was reached at 3,762 feet. The well had an initial rock pressure of 600 pounds per square inch.

New locations reported are: Empire Producing Co., Floyd Wilson No. 2 farm, Willing Township, Allegany County; G. L. Cabot, Inc., George Hotaling No. 2 farm, Woodhull Township, Steuben County; Clancey, School District No. 5, Woodhull Township, Steuben County, and New York State Natural Gas Co., Bennie E. Trax farm, Harrison Township, Potter County.

With the exception of the Belmont Quadrangle Drilling Co. test on the E. A. Treat farm, Erin Township, Chemung County, which is drilling at 910 feet, all New York operations are in Steuben and Allegany counties.

In Steuben County, G. L. Cabot, Inc., is drilling at 885 feet on the Charles Crane No. 1 and at 453 feet on the Charles Crane No. 2, Woodhull Township, and at 3,375 feet on the Elmer Downey farm, West Union Township. Clancey and others are drilling at 2,715 feet on the D. Hovey farm, Addison Township; Van Gelder and others, at 125 feet on the Fred Farnham farm, Addison Township, and New York State Natural Gas Co. at 930 feet on the Sarah Hammond farm, Troupsburg Township.

In Allegany County, Cunningham Natural Gas Co. has cased and cemented its test on the William Shear farm at 4,812 feet after topping the Onondaga at 4,787 feet and is drilling at 1,825 feet on the Fortner farm, both in Willing Township. Belmont Quadrangle Drilling Co. is drilling at 3,045 feet on the G. Lampe farm and Empire Producing Co. at 1,340 feet on the Dan Clark No. 2, other Willing Township operations. Belmont Quadrangle Drilling Co. is also spudding on the Elwin Livermore farm, Independence Township, and G. L. Cabot, Inc., encountered a show of gas at 1,185 feet in a sand at 1,172-90 feet on the Empire-Rogers farm, Alma Township.

G. L. Cabot, Inc., is the most active of the Potter County operators, drilling at 4,782 feet on the Frank Raymond farm and at 570 feet on the Mary Lebar farm, both in Bingham Township, and at 2,675 feet on the Emma Elliott farm, Harrison Township. Hanley & Bird are drilling at 3,540 feet on the No. 2 F. Rook, Harrison Township; Sylvania Corp., at 1,530 feet on the Roy Harrison farm, Bingham Township; Belmont Quadrangle Drilling Co., at 700 feet on the R. M. Wolcott farm, Sharon Township, and Updegraph and others at 510 feet on the Fred Whitney lot, Bingham Township.

All Pennsylvania operations with the exception of two wildcats are in Potter County. McKenry and others are reported shut down at 4,882 feet in the wildcat on the Stellman farm, Rockland Township, Venango County, and Wasson and others at 5,358 feet on the E. S. Collins farm, Howe Township, Forest County.

Pipe Line Activity

Quarterly Reports Required From Pipe Line Companies

WASHINGTON. D. C.—The Interstate Commerce Commission has issued an order requiring pipe line companies with annual operating revenues of more than $500,000 for the last three consecutive calendar years to file quarterly instead of annual reports on the volume of their business. The reports must be filed within 30 days after the close of the period to which they relate, the first ones to cover the three months ended September 30, 1938.

The order also relates to water carriers under the jurisdiction of the I.C.C.

Michigan-Toledo Pipe Line Issues Tariff to Toledo

The Michigan-Toledo Pipe Line Co. has issued a local tariff from Freeman station, Michigan, to Bay Shore and Toledo, Ohio, of 14 cents per barrel.

Natural Gas Corp. of Tennessee Plans Line to Chattanooga

Natural Gas Corp. of Tennessee, Inc., John E. Edgerton, Lebanon, Tenn., president, is planning construction of a pipe line from a gas field near Shreveport, La., to Chattanooga, Tenn., to supply natural gas to Chattanooga. Negotiations are now under way, it is stated, for furnishing gas to that city. The project would also include branch lines to supply natural gas to other cities in the Chattanooga area.

Turner Valley Much Interested In British Possibilities

CALGARY, Alberta.—While developments in Europe have removed, for the time being, the threat of war, the British Government is definitely considering measures for making Turner Valley crude available for Admiralty purposes. Underwriters Trust, Ltd., of London, England, recently sought from the Alberta Petroleum Association data about the field and the probable cost of pipe lines to the Pacific Coast or Fort William; and Viscount Chaplin of London, who visited Calgary recently, intimated a possibility of British cooperation in the further development of Turner Valley and in the testing of potential Alberta crude areas.

Within the past year Turner Valley has displaced Trinidad in importance. The field now has an estimated daily potential of 52,000 bbls., or approximately 19,000,000 bbls. a year.

Coupling 16-inch natural gas transmission line of Northern Natural Gas Co. between Ventura, Iowa, and Albert Lea, Minn.

INTERNATIONAL NEWS

Mexican Developments Press For Solution of Problem

Demand for a solution of the Mexican petroleum situation became more pressing last week as another contract was negotiated by the Mexican Government with an American importer. Negotiations between Mexico and Roy R. Fisher, president of Argo Oil Corp., Detroit, resulted in a contract for importation into the United States of several million barrels of crude. The exact quantity covered by the contract has not been determined, but some estimated the volume as high as 15,000,000 bbls. over a period of 12 months.

Details did not disclose whether the Fisher contract involved only imports in bond or whether part of the receipts will enter domestic trade. Argo Oil Corp. is a distributing firm in Detroit and it was assumed the oil handled will be processed under contract by some other company.

In confirming negotiation of the contract at Detroit, Mr. Fisher pointed out he was the only one actually involved in the deal because he had not yet received formal approval of the board of his corporation. "While I don't anticipate the board will find fault with anything I have done," he explained, "I can't truthfuly say, until the board has acted, that Argo Oil Corp., of which I am president, has entered into this contract with the Mexican Government."

"We will buy our oil from the Mexican Government with American money, and this money will be spent by Mexico in the United States for machinery and equipment to modernize their refineries," he said.

The last paragraph of Mr. Fisher's statement correlated with reports that Americans are now in Mexico surveying refining facilities, mostly those expropriated from the 17 American and British private companies, with a view to recommending modernization or extension to meet present requirements.

Embargo Proposed

At Washington, a proposal was made for an embargo against importation into the United States of petroleum and other products from lands expropriated by Mexico.

Unidentified persons sent through the mails a draft of what was labeled a senate joint resolution that presumably might be introduced when Congress reconvenes. It would provide that:

"Whenever the president shall find (a) that property lawfully owned by any citizen of the United States have been expropriated or confiscated by the government of any foreign state; and (b) that the government of such foreign state has refused, or within one year after such confiscation or expropriation has failed, to make restrictions of, or proper and adequate provision for payment for, such property; he shall proclaim such facts, and it shall thereafter be unlawful to import from such country, attempt to import, or cause to be imported any raw material, or product of any by-product thereof of the kind which was being produced on, in or from such property at the time of such confiscation or expropriation, or during the year of production next preceding."

In addition to developments in this country, reports came from Mexico City that the government had consummated a contract with Azienda Generale Italiana Petroli of Rome covering several million barrels of petroleum. Payment for at least part of the Italian deliveries would be accepted by Mexico in rayon yarn and finished textiles.

From Mexico City it was also reported that the deal with Mr. Fisher of Detroit extended only so far as he would represent the government company, Distribuidora de Petroleos Mexicanos, in the United States.

Since American and British private company properties were confiscated March 18 until October 1, it was reported that Mexico has exported about 5,632,533 bbls. of petroleum. Crude oil was the largest item with gas oil and gasoline following in that order. A bulk of exports have gone to Germany on the W. R. Davis & Co. deal, the first negotiated after properties of private owners were confiscated. Davis & Co. has paid for 60 per cent of its Mexican petroleum purchases in German goods, mostly steel tubular products.

Eastern States Petroleum Corp., of Houston and New York, is one of the largest current purchasers of Mexican crude. The company has received approximately 750,000 bbls. of crude from that source since the contract was negotiated August 1. Receipt of Mexican oil at Houston and at New Orleans, the latter port being the destination for some of Davis' shipments, has precipitated an investigation by United States officials to determine if the antidumping sections of trade treaties with Mexico are being violated. The results of this investigation have not been made public.

It was reported from Washington that Eastern States' refinery at Houston has been bonded by government agents under provisions of the oil import duty section of the revenue bill. So far none of the Eastern States petroleum from Mexico has been designated for internal consumption, but that it is displacing material for export formerly purchased from other American refineries is admitted.

Cardenas Hopes

President Cardenas of Mexico agreed last week to cease expropriation of American-owned agrarian properties pending settlement of the issue between the two governments. He expressed hope in an interview with newspaper correspondents in Mexico City last week that oil company representatives would petition him for a conference on the petroleum issue. Oil companies involved in the dispute gave no indication the Mexican president's invitation would be accepted. The inference was left that matters had been placed in the hands of the Department of State and that any solution would be worked out through diplomatic channels. President Cardenas has maintained that the law was in accord with the Mexican constitution and that any settlement would have to be worked out under the laws of Mexico.

The way was cleared last week for the final appeal by American and British oil companies to the courts of Mexico. The government refused early last week to admit a petition by 12 of the 17 American and British oil companies whose property was expropriated for administrative revocation of the confiscation decree.

In a lengthy 18-page document signed by President Cardenas, as well as by the Secretaries of National Economy and Finance, the Mexican government ruled: "It is well demonstrated that the decree of March 18 is not contrary to the Mexican constitution nor to the expropriation law promulgated November 23, 1936, and that the latter has been correctly applied to the oil companies. Therefor, the decree will not be revoked."

This leaves the way open for the companies to bring their case through the Mexican courts to the Supreme Court for a final legal decision. Company lawyers said a court action would be brought within 15 days challenging the constitutionality of the expropriation law, declaring the expropriation decree illegal and contesting the administrative refusal to return the properties.

Texas Producers Protest

The North Texas Oil and Gas Association is convinced that cut-price Mexican oil, produced from the properties of American and British oil companies seized without payment by the Mexican Government, is being illegally "dumped" upon the Texas oil market, and will vigorously push its formal complaint of violation of the federal anti-dumping act, John Kilgore, of Wichita Falls, general counsel for the association, declared. He challenged the accuracy of statements by Rafael Michel, consultant, and Rodolfo M. Hernandez, adviser, of the Mexican Oil Commission, in which they denied that "dumping" has occurred.

"The records of the Texas Railroad Commission, which must issue tenders for every barrel of oil before it can be moved in commerce, show," Mr. Kilgore said, "that during September and October there were substantially more than 10,000 bbls. of oil daily moved into Houston from Mexico. Our contention is that the dumping charge is fully sustained by the facts, even if the Mexican claim of the 10,000 bbls. a day figure was correct.

"Mexican oil, sold at bargain prices because it did not cost the Mexican Government anything at all, is in direct competition with West Texas crude, and is a continuing menace to our market. We intend vigorously to press our complaint to the federal Government, which is now being investigated, and we hope that Washington officials will give us relief from what we believe is a plain violation of the federal anti-dumping act of 1921."

MOVEMENT OF TANKERS CLEARING FROM MEXICAN PORTS, MAY 1 TO JULY 11, 1938

Port of embarcation	Date of loading	Name of ship—	Nationality—	Cargo shipped (metric tons)	Consignment of cargo
Port Isabel	5/1	Cassimir	American	7,000	New York
Tampico	5/9	Petter	Norwegian	12,000	Copenhagen
Tuxpan	5/15	Marietta	Norwegian	15,000	Hamburg
Tampico	5/16	Lieisten	Norwegian	9,000	Brunsbuttel
Tampico	5/17	Vanja	Norwegian	8,000	Nordenham
Tampico	5/20	Katy	Norwegian	10,000	Nynasham
Tampico	5/24	Pelk	Norwegian	9,000	Ertvelde
Tampico	5/26	Mosli	Norwegian	12,000	Antwerp
Tuxpan	5/27	Pericles	Norwegian	12,000	Hamburg
Tuxpan	5/31	Jane-Moresk	Danish	12,000	Dungeness
Tampico	6/1	Myriam	English	10,000	Namburg
Tampico	6/10	Inneroy	Norwegian	12,000	New Orleans
Tampico	6/11	Maria-Moresk	Danish	13,000	Brunsbuttel
Tampico	6/13	Cleopatra	Swedish	9,500	Amsterdam
Tampico	6/20	Inneroy	Norwegian	12,000	New Orleans
Minatitlan	6/27	W. R. Lundgren	Swedish	12,000	Antwerp
Tampico	6/28	Tuscania	Italian	9,500	Trieste
Tuxpan	6/30	Marietta	Norwegian	15,000	Danzig
Puerto-Mexico	7/1	Litiopa	Norwegian	7,500	Cristobal
Tampico	7/1	Inneroy	Norwegian	12,000	Hamburg
Tampico	7/4	Vanja	Norwegian	8,000	Hamburg
Tampico	7/11	Gustaf-Reuter	Swedish	8,500	Nynasham
			Total	235,000	

From July 11 to July 31 the following clearances have been noted:

Tanker—	Nationality	Cargo shipped (metric tons)	Origin—	Destination—
Pelk	Norwegian	9,000	Vera Cruz	Nordenham
Trittiera	Italian	8,500	Tampico	Trieste
Jane-Moersk	Danish	12,000	Tuxpan	Antwerp
Rogulas	Swedish	14,000	Tampico	Hamburg, Rotterdam
Myriam	English	10,000	Minatitlan	Houston
	Total	53,500		

ENGINEERING and OPERATING

In This Issue

CARTER'S OKLAHOMA WILDCAT USING UNUSUAL DRILLING EQUIPMENT
By Dan Cox ..... *Page 30*

Carter Oil Co. No. 58-C Smith in the Chickasha gas field of Grady County, Oklahoma, is headed for a depth of 10,000 feet. It has the deepest goal of any wildcat drilling in the state at this time. Noble Drilling Co. combined 12 gas-engine, direct-connected, electric-generating units to make the largest power manufacturing assembly ever devised for drilling purposes. The internal-combustion engines used have a total theoretical output of 1,320 hp. and the electrical generators have a 720 kw. capacity.

METALS PROGRESS—*By W. L. Nelson* ..... *Page 32*

MULTIPLE HOOKUPS HELP SOLVE PUMPING PROBLEMS IN EAST TEXAS
By Robert M. Bass ..... *Page 37*

In the second and concluding installment of a paper presented before the East Texas chapter of the A.P.I., the author discusses different types of multiple well hookups as a means of solving some of the problems confronting East Texas producers; the effect of the large water volume accompanying the oil production is also considered.

CLEANING WELLS IN WEST TEXAS BY MEANS OF REVERSE CIRCULATION
By D. H. Stormont ..... *Page 39*

Completion practice in West Texas calls for the shooting of the wells but the cleaning out has presented a problem. The use of the Beckman process of reverse circulation which utilizes the column of fluid having the highest velocity has aided in cleaning these wells.

SAFETY—CLUTCH THROW-OUT LINE NEAR THROTTLE ..... *Page 40*

One of the most dangerous and costly accidents on a rotary operation can be caused by the driller being unable to stop the machinery on a mechanical rig. To prevent this, some crews install a throw-out device on the clutches which can be operated by the driller.

AUTOMOBILE ENGINE DESIGN GOVERNS MODERN REFINERY METHODS
By W. W. Scheumann ..... *Page 42*

The continued development of improved automobile engines has called for a kindred development in the manufacture of fuels and lubricants. Keeping up with the fuel requirements of automobiles has been a source of worry and expense to the refiner. Closer cooperation between the engine designers and refiners would be an aid in eliminating part of the difficulties.

OPERATING IDEAS ..... *Page 35*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 46*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* ..... *Page 47*

Carter Using Largest Gas-Directly Connected, Elec

By DAN COX
Mechanical Engineer

Exploration for deep production in Oklahoma is again under way with the drilling of the Carter Oil Co. No. 58-C Smith in the C SE SW Section 26-5n-8w, in the heart of the old Chickasha gas field in Grady County. Noble Drilling Co., Inc., holds a primary contract to a depth of 10,000 feet; the well may be drilled deeper if commercial production is not found in the Deese sand which is expected at that point. Site of the well is approximately 12 miles southwest of the town of Chickasha and 4 miles north of the Gulf Oil Corp. No. 1 Thomas in Section 14-4n-8w, the deepest test drilled in Oklahoma.

Production is obtained from the Deese at fairly shallow depths in the Healdton, Hewitt, and Cement fields. The sand is a member of the Glenn formation of the middle Pennsylvanian age, and is most frequently found in Oklahoma in the southern part of the state.

The wildcat is located on a large block of acreage assembled by 16 companies and individuals with Carter Oil Co. holding 32 per cent interest, and operating the test. A 40-acre spacing pattern is contemplated for the block of nearly 2,500 acres in case production is obtained from the Deese or lower formations. The present attempt of Carter and others to obtain deep production in Oklahoma is the sixth test to be drilled below 10,000 feet. Three of the other five were dry, and the other two obtained production after being plugged back. The Deep Fox pool in Carter County is at present the deepest field in the state. Production comes from an oolitic lime in the Oil Creek section of the Simpson formation found at approximately 8,000 feet.

The electrical equipment installed for the drilling of the present test on the Smith farm was assembled after the results obtained by the Noble Drilling Co. with smaller units on numerous wells in various sections of the country had been carefully considered. In reality it is a combination hook-up of two smaller units which have been in actual use for several years. The design for the original hook-up as well as the present assembly was laid out by C. J. McCoy, chief engineer for Noble Drilling Co., in collaboration with the executive and field personnel of the company.

The present operation is under the local supervision of Paul Buckley. The power plant of the gas D-C electric rig is the largest of its kind ever assembled for drilling purposes. The internal combustion engines have a total theoretical output of 1,320 hp. and the electric generators have a capacity of 720 kw.

Power Plant

A portable steel building 24 feet by 60 feet houses the power plant about 150 feet east and a bit south of the derrick. Twelve individual prime movers directly connected to 12 generators with integral exciters generate the power. Each of the identical units consists of a P.A. 100 International 110-hp. at 1,400 r.p.m. engine connected through a Westinghouse flexible coupling to a Westinghouse d.c., 60 kw., 100 v. generator. Each engine and generator with overhung 5 kw., 125 v. exciter is mounted on an individual oil field type skid.

Although these 12 units, uniformly side by side, surrounded by a floor of treaded steel plate, appear as an indivisible plant, the designer planned to meet a wide range of power requirements with this equipment. Rearranged, the building forms two separate power plants, 24 feet by 30 feet, of six units each. Functioning as an independent unit, a complete skid-type volume tank with high-pressure regulator supplies natural gas at 6 ounces to six prime movers. Each unit is governed individually by a flyball governor. Attached to each six-unit section is a steel switchboard house, portable as a unit.

Disassembled the power structures load in 5 by 8-foot sections. Each engine with generator and exciter loads as a unit, as do each of the two volume tanks and switchboard houses.

Water is supplied to the pits and the power plant from a 220-foot well by an electrically driven pump. The cooling system of each unit is independent, and the water is treated by adding cleaner to each radiator. Radiator caps have been replaced by wire mesh, facilitating inspection, and reducing the hazard of burns. Adequate fire extinguishers occupy convenient places in the building.

Control equipment located beneath the floor on the No. 58-C Smith of Carter Oil Co. The two rams, upper, and master gate, lower, can be closed by fluid pressure

Control

The main control circuit exists between a large drum switch and the two switchboards at the power plant. By operating this drum switch and supplementary switches near at hand, the driller is in complete manual charge of the power plant from his position at the brake. The slush pumps, although located about 100 feet from the rig floor, are operated by the derrick man from a position just behind the driller's side of the drawworks. At the driller's decision to come out of the hole, he has merely to discontinue rotation and pump operations, operate the sequence switch, and he has the total output of the power plant at the disposal of the hoisting motors.

Automatic interruption of the control circuit by the master circuit-breakers takes place in the event of a short circuit at any point in the system. With the control circuit incomplete the rig is shut down. It is therefore necessary to locate and repair the short before operations can be resumed.

If for any cause due to failure in prime mover, generator, or exciter, 1 of the 12 units should lose speed to the point of becoming a drag to the others, the control circuit is automatically interrupted, shutting the rig down until that unit is either isolated or repaired.

Twelve 110-hp. engines used to drive individual generators on the mechanical-electric rig of Noble Drilling Co. which is drilling the deep wildcat in Grady County

Engine, tric Rig

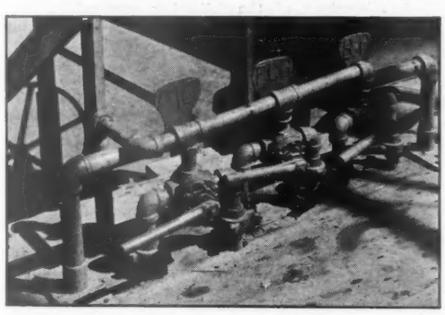
Generator end in the power plant on Noble Drilling Co.'s large rig. Twelve 60 kw. generators are direct driven through flexible couplings, and provide power for operation of the drawworks and all pumps used on the rig

Power is transmitted from the switchboards to the motors driving the drawworks and pumps by a trunk of 46 wires; there are 8 common returns and 38 control wires. This trunk is encased in a conduit box of 2-inch lumber, 10 by 12 inches.

Floor

Hoisting is done with an H-54 Emsco drawworks anchored by turnbuckles to the 3-foot concrete foundations. The drumshaft is equipped with a Parkersburg hydromatic brake which makes it unnecessary to ride the hand brake when going in the hole. The four-speed drawworks is of the jackshaft type, chain driven through an Ideal compounding gearbox by two 350-hp. 500 v., 900 r.p.m. Westinghouse blower-ventilated motors.

Six lines are strung over a Regan six-sheave crown block and through a Regan five-sheave traveling block. The dead line is anchored about a joint of 8-inch casing containing a joint of 6-inch drill pipe over which the 3-foot foundation was poured. Eight lines will probably be strung



Control manifold for the pressure operated blow-out controls on Carter Oil Co.'s deep test in Grady County, Oklahoma. Master gate, flow-line gate and blow-out preventer are closed by operating the valves indicated by metal identification plates

soon after attaining a depth of 4,500 feet. The 300-ton B.J. hook engages an Oilwell 150-A swivel. The drill stem of 6⅝-inch National tubing equipped with Reed Full-Hole welded tool joints, is rotated by a 26-inch Johnson rotary table and a 40-foot by 6-inch nickel-steel kelly. Drilling weight is indicated by both a line scale and a Martin-Decker Quintuplex; a component part of the latter makes a continuous record.

A Halliburton well-surveying reel is mounted on the drawworks skid directly back of the cathead on the driller's side. A V-belt drives the reel from the cathead. Deflection surveys are periodically made with a Syfo Clinograph. The familiar GatGun has been replaced by a very efficient Alemite portable high-pressure compressor. Plenty of water pressure is available for washing tool joint pins and floor as the closing of a switch starts an electrically driven 6-inch power pump. The regular crew of driller, two floor men, derrickman, and mechanic is assisted by a casing crew when threaded pipe is run as casing.

Derrick

The California type substructure rests upon a solid 3-foot concrete foundation. An interesting feature is noted in the 9-foot by 14-foot round cellar. The control gates are, of course, anchored in the foundation by means of wire line tie-downs.

The method of operating the control gates is also interesting. The gates are moved into place by pistons actuated by water in hydraulic cylinders. The three three-way hydraulic control valves operating the blowout preventer, master gate, and flowline gate, lie within 12 feet of the driller's place at the brake; the identity of each is conspicuously designated by its initial, welded on an attached plate.

The 136-foot L. C. Moore derrick surmounting a 30-foot square floor has features to distinguish it from other 136-foot derricks used in the Mid-Continent. A run along at the first girt is designated as the "ladder-landing platform." There is a run around at the thribble boards, and another at the water table. Certainly marking a step toward added safety is a run along at the cross member of the gin poles.

The slush pumps, covered by a shed, are located about 100 feet from the derrick floor. The main pump is an 18-inch Ideal Union Tool with 7½-inch liners, mounted on a skid with, and driven by a 350-hp., 500 v., 900 r.p.m. Westinghouse d.c. motor; the pump is driven by means of 16 V-belts. A ventilating fan maintains a forced draft through the motor case for cooling purposes. The auxiliary pump is a 15-inch Ideal with 7¼-inch liners, also mounted on a skid with, and driven by a 250-hp., 400 v., 900 r.p.m. Westinghouse ventilated, d.c. motor; this pump is driven by means of 15 V-belts.

Auxiliary Standpipe

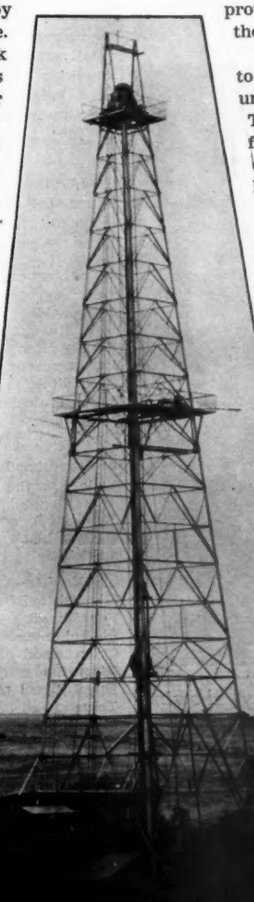
The suction valves are about 4 feet above the high mud level. Safety valves of the nail-shearing type are used. The 4-inch mud line from the pumps to the standpipes is anchored at four points by U-bolts set in 2-foot concrete cubes poured into the ground.

Beside the regular standpipe there is an auxiliary; both are tied to the derrick leg by windings of wire line tightened by a turnbuckle. Each standpipe is fitted with a 10,000-pound per square inch mud hose. In the event of hose failure it is necessary merely to change hoses at the goose neck union, and switch standpipe valves. Hydraulic hammer is minimized by a 6-inch air chamber connected just ahead of the two standpipes; this chamber supplements the chambers integrally cast on the pumps. Air chambers are also provided between the suction valves and the intake.

An 8-inch flow line conveys the mud to a flow box which in turn leads to a unitized vibrating screen and mud box. The latter reverses the direction of flow, and directs the mud into the circulating pit. There is installed at the head of the flow box an interesting device known as a Hayward continuous mud sampler. Small quantities of mud are continuously picked up; the solids and fluid are deposited in separate containers.

After leaving the mud box below the shaleshaker, the mud flows through a narrow flume from the 45- by 14-foot bare pit into a 110- by 12-foot pit walled with 2-inch lumber. The remote end of the latter pit separated by a double-winged partition and removable gates, constitutes the suction pit. The reserve pit lies at the foot of the shaleshaker. It is 7 feet deep and 100 feet square. A jet returns mud from the re-

(Continued on Page 45)



One hundred and thirty-six foot derrick with 30-foot base used to drill the No. 58-C Smith in the C SE SW Section 26-5n-8w in the Chickasha gas field, Grady County, Oklahoma. Note the walkway along the gin poles

Progress in METALS

By W. L. NELSON

Coarse-Grain Steels Exhibit Better Creep Strength

Appendix V of "Report on Effect of Temperature on Properties of Metals," by Cross and Lowther of the A.S.T.M., and presented before the forty-first annual meeting of the A.S.T.M. at Atlantic City, July 1938, shows definitely that coarse-grain carbon steels exhibit a superior resistance to creep. In all cases the steels having a coarser austenitic grain size had superior creep strengths, and for six steels containing 0.46 to 0.58 per cent carbon, the coarse-grain specimens, when tested at 850° F., elongated or stretched only one-tenth to one-twentieth as much as the fine-grain specimens. The same general results were obtained at 750° and 950° F.

Additions of aluminum of 0.022 to 0.105 appeared to decrease the creep strength as compared with plain coarse-grain carbon steels. The less the percentage of aluminum added, the greater the creep strength.

Corrosion and Erosion by Acid Waters

Abstract: Ferd Dieffenbach, U. S. Engineer, War Department, "Corrosion and Erosion in River and Harbor Structures," Ind. Eng. Chem., Vol. 30, No. 9. 1014 (September) 1938.

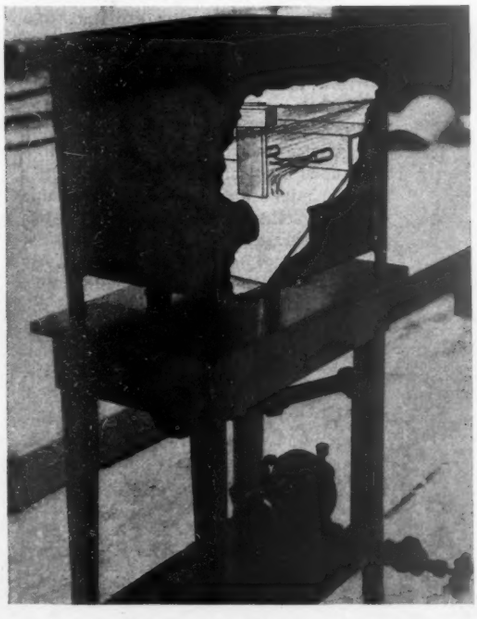


Fig. 2—Equipment (end cut away) showing method of testing metal sample for acid corrosion

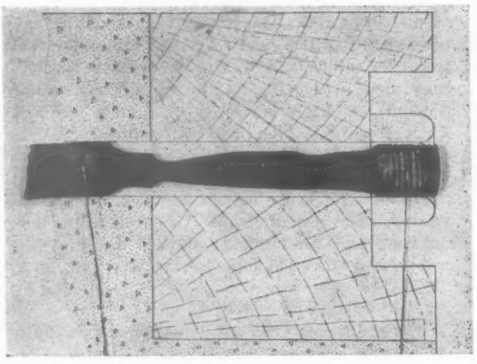


Fig. 1—Some woods accelerate steel corrosion. The above shows the result of a specimen in contact with red and white oaks

Acid water may be found in the vicinity of many industrial plants and refineries due mainly to the absorption of sulfur dioxide from furnace gases although rivers and harbors in industrial centers are most troublesome in this respect. The Monongahela, Ohio and Allegheny Rivers in the vicinity of Pittsburgh exhibit a particularly bad acid condition. Acid water in conjunction with the scouring effect of suspended sand, silt and debris, presents an actively destructive condition. Some wood, particularly white and red oak. have been found to accelerate the action of acid water on steel as indicated in Figure 1.

Paint

In combating such conditions paint is not normally satisfactory but in the Pittsburgh district the War Department engineers found that the special paints listed below were far superior to other paints.

Prime coat—	Pct. by wt.
Red lead	16.45
Iron oxide	38.25
Raw linseed oil	4.64
Zinc yellow	5.58
Diatomaceous earth	5.92
Pine oil	1.08
n-Butyl alcohol	0.23
Vehicle	27.85

Sufficient drier should be added to make the prime coat dry hard in four hours or less. Note that the vehicle has the special composition given below.

Finish coat—	Pct. by wt.
Carbon black	5.0
Vehicle	95.0

Vehicle—	Pct. by wt.
Mineral spirits	28.12
Varnish oil	17.15
Phenol-formaldehyde resin	16.65
China wood oil	25.98
Dipentine	4.67
Ethyl glycol monoethyl ether	3.84
Toluene	2.38
High-flash naphtha	1.21

Detailed specifications of all of the materials are given in the original article This paint has an original cost that is less than red lead linseed oil paint, and costs less to apply because of excellent free flowing properties. The vehicle used in the paint has been adopted as standard by the Pittsburgh Engineer district for all paints except white and for all spar varnish work.

For more severe conditions of abrasion, wear and strength, alloy cast irons and steels have been developed. For lock gate valves, the following copper-molybdenum cast iron has given 2.5 years of service without noticeable corrosion-erosion.

	Pct. by wt.
Total carbon	2.4 -2.6
Combined carbon	0.6 -0.8
Silicon	1.9 -2.1
Manganese	0.4 -0.55
Sulfur	0.04-0.08
Phosphorus	0.15-0.19
Copper	0.8 -1.0
Molybdenum	0.3 -0.4

Such an iron has a tensile strength of about 60,000 p.p.s.i. and a Brinell hardness of 230.

For hydraulic turbine runners, valve frames, speed rings and similar services, a nickel-copper-chromium cast iron has given excellent results:

	Pct. by wt.
Total carbon	2.3- 3.0
Silicon	1.0- 2.0
Sulfur	0.12 max.
Phosphorus	0.3 max.
Manganese	1.0- 1.5
Nickel	13.0-16.0
Copper	5.0- 7.0
Chromium	2.0- 3.5

This iron has a minimum strength of about 21,000 p.p.s.i. and a minimum Brinell hardness of 120.

The austenitic steels have been found to be very resistant to corrosion and they resist erosion because of their work-hardening properties. One satisfactory steel contains about 18 per cent chromium, 11 per cent nickel and 3 per cent molybdenum. If hardening by heat treatment is necessary, a 13 per cent chromium, 0.5 per cent molybdenum steel has been used. Bronze bearings of the following composition have been successful in some services:

	Pct. by wt.
Copper	79.25-80.25
Tin	9.5 -10.5
Lead	9.5 -10.5
Phosphorus	0.3 - 0.5
Other elements	0.25 max.

Testing

An accelerated test which is of some significance, has been developed. The general equipment shown in Figure 2 consists essentially of a tank equipped with a series of nozzles connected to a circulating pump. The tank is filled with dilute acid solution and a small amount of sharp river sand. The specimens are mounted so that the stream from the nozzle impinges on the specimen. Specimens of metal in the form of circular discs have also been mounted on a rod and immersed in the river.

Metallurgical Terms

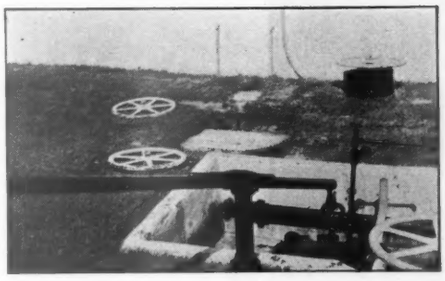
Malleabilizing

The Society of Automotive Engineers and the A.S.T.M. defines malleabilizing as "a type of annealing operation with slow cooling whereby combined carbon in white cast iron is transformed to temper carbon which in some cases the carbon is entirely removed from the iron."

The purpose of the operation, as the name implies, is to render the iron more ductile. Combined carbon, which is carbon in the form of brittle iron carbide, is converted into free carbon in the form of rounded nodules which consist of an aggregate of minute crystals by heating for many hours at a temperature close to or above the lower critical temperature on the iron carbon equilibrium diagram. This leaves a matrix of nearly pure iron through which is dispersed the free or temper carbon, and the effect of the nodules of carbon on the physical properties of the material is almost negligible. Thus the physical properties of malleabilized iron is similar in general to pure iron. Upon prolonged heating (200 hours or more, depending on the thickness), the nodules of carbon may be eliminated completely by migration of carbon to the surface where it can burn to carbon dioxide and be removed as a gas.

OPERATING IDEAS

Lever for Strainers



A lever with a hook has been installed for removing pipe line strainers which make it possible for this operation to become a one-man job; strainers may be lifted out and replaced in a short time, without risk of injury while handling the heavy load.

White-Faced Boilers for Rotary Drilling Rig

Painting boiler fronts with heat-resisting aluminum paint not only gives a neat appearance but also serves to simplify boiler checking, especially at night. The reflector-refractor type of water glass is used; the column of liquid appears black in marked contrast to the white boiler, thus making accurate checking easy. The positions of try-cocks, regulator valves and other control equipment on the boiler are readily determined at night when they are in sharp contrast with the steel plates; shadows cast point to controls like arrows.

Portable Oil-Gas Separator Used for Checking Wells

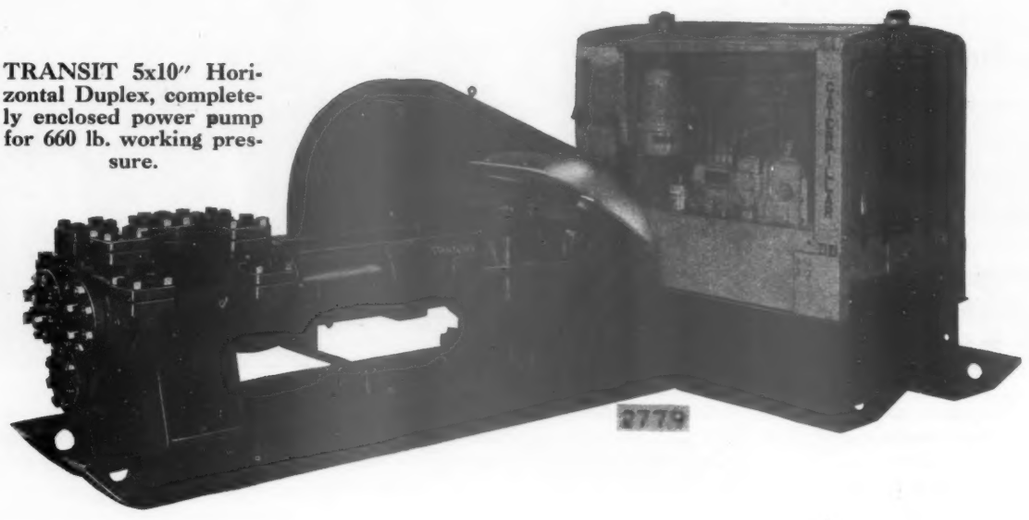
This portable oil-gas separator is being used in the Nowata, Oklahoma, field for checking success of the water-flooding project being developed in that area. Many nonpaying properties have been put on a profitable basis by this secondary recovery method. Operations do not justify the installation of a separator and metering device at each well so this separator

and two meters were mounted on a trailer and are hauled to the different wells for checking purposes. Oil production is gauged through one meter and water production through another. Hoses and unions provide a quick method of connecting the separator and meters to the well heads. Data obtained from gauges indicate status of flooding operations.

Hook-Up for Pipe Line Pump

A rod line pump is operated by a walking beam, through the use of a hook-up which consists of a U-shaped saddle, welded to the walking beam. A hook at the end of the chain is hooked into the bottom of the U when the pump is to be operated. The chain had formerly been used on a rotary drilling rig; it runs under a 16-inch sprocket, mounted on a 2½-inch shaft, at each end of which is a roller bearing. The sprocket assembly is mounted on a 12-inch I-beam, welded to the base of the pumping unit. The chain is connected with the rod line.

THE ROUSTABOUT



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PUMPING PROBLEMS IN EAST TEXAS FIELDS

By Robert M. Bass
Sinclair Prairie Oil Co.*

One of 22 pumping units in an electrically-powered system operated by time clocks in the south end of the East Texas field. Note the weatherproof control box at the well

The multiple hook-up, that is, several wells pumped from one geared unit or standard rig equipped with a backside crank, is becoming very popular and is particularly adapted to the east side of the field. This particular hook-up is growing in favor, too, because of its economical value and because of its being particularly adapted to fit many operators' needs. Leases that have a few more wells than can be accommodated by central powers or several wells isolated by highways, creeks, or other obstacles can be equipped with multiple hook-ups very satisfactorily and will, in all probability, pump the wells throughout their entire productive life. Particular care should be given the selection of a unit if it is to be used on a multiple well hook-up to get one heavy enough and equipped with a prime mover with enough horsepower in order to insure efficient operation. Many multiple well hook-ups are now running in all parts of the field that are overloaded and because they are overloaded will not give efficient operation due to breakdowns and necessary repairs will cause it to become a very expensive installation.

There are many individual units being installed in the East Texas field on the east side ranging in size from 10-hp. geared units equipped with 15-hp. multiple cylinder engines to standard rigs equipped with from 25 to 40-hp. horizontal two and four-cycle gas engines. These are all adequate for these particular wells with the possible exception of the smaller units which might prove to be too small. If individual geared units are to be installed, they should not be of less than 20-hp. size equipped with an engine of not less than 20-hp. Either single or double reduction units may be used with satisfactory results depending upon the speed that the prime mover will run. One advantage of the double reduction unit is that the pumping motion is smoother and the shock due to the pulsations of the engine are not transmitted so readily to the polish rod. Particular attention should be paid to the proper installation of equipment on the east side of the field. These wells will in all probability pump longer than wells in other parts of the field. The wells on the east side, due to the lower fluid level that exists, have now and will continue to have a greater polish rod load than wells on farther west. This equipment should be set on a good concrete foundation large enough to insure proper performance. There seems to be a tendency both in the selection of equipment and in installations of same not to get the machinery heavy enough or to set it substantially. This undoubtedly will prove to be an expensive choice before the wells are through pumping.

Concluding half of paper presented before East Texas chapter, A.P.I. First half appeared Oct. 27, starting on page 180

*Author's title, "Observations of Pumping Problems and Equipment in the East Texas Field."

A four-well hook-up with the power unit housed in a weatherproof shed. Two of the wells in this unit are located across the elevated highway fill

The Middle Area

In this area very little is known about the way wells will act while pumping, because nearly all of the wells are flowing. From the physical characteristics of the field which have already been mentioned, this section of the field will resemble the east side wells in their pumping behavior for a considerable length of time after the wells are first equipped to pump. We have every reason to believe that due to the great thickness of the sand which contains oil that successful work may be done in plugging back wells enabling the operator to control the production of water. As long as the water is successfully held in check by plugging back, the middle area will continue to pump much the same as the wells on the east side. Eventually, however, these wells will produce water in great quantities.

Equipment—Middle Area

Because of the fact that this area will resemble both the east and west side of the field during its entire life, the operator has a problem in selection and installment of pumping equipment. This problem is whether or not to equip these wells at first with equipment similar to that used on the east side or to equip them to pump greater volumes of fluid, anticipating this condition to come later.

We in East Texas have become reconciled to the allowable of each well as being 20 bbls. of oil or a few more barrels at most. Some day wells in the middle area and east side might be called upon to produce on a competitive basis. We must not confine our thoughts too much to the idea of 20 bbls. of oil per well. As the volume of water to pump on the west side becomes greater and approaches an amount that cannot be economically produced, the wells will be plugged and abandoned. This will cut down the number of wells in the entire field and certainly would be reason for an increase in the allowable for the remaining wells. The first allowable that was set for wells in this field was 225 bbls. per well. Many wells in the field today are not equipped to pump this amount of fluid and certainly could not produce this amount of oil together with some water. The same pumping equipment as installed on the east side wells will pump wells in the middle area for a number of years. This consists of central powers, multiple well hook-ups, and individual units. These powers and multiple well hook-ups can be replaced if the need ever arises with equipment that will pump larger volumes later. This seems to be the prevailing thought among the operators who have installed pumping equipment in this area ahead of its need. This, because of its economical significance, is a good practice. Some operators, however, are installing standard rigs and larger units in the middle area at this time. This is the safe thing to do and will undoubtedly solve the question of pumping equipment for all time.

West Side

Due to the encroachment of water in this area and the vast amount that is being pumped out of some wells, the following are a few questions that are being asked:

1. How much water can be pumped economically?
2. What is the life of a well after it begins to make upwards of 100 bbls. of water, if such well is on the west side?
3. Can the oil production be skimmed from the water?
4. What kind of pumps should be used?
5. What kind of rods and tubing are best in this water area?
6. Will the central powers and multiple well

hook-ups handle the volume of fluid necessary?

As the volume of fluid increases in amount necessary to produce the daily allowable of 20 bbls. of oil, since only the 20 bbls. of oil can be sold, the cost of producing increases as the water production increases. There is an inexhaustible supply of water on the west side of the field, and when the cost of producing gets to be more than the income derived from the sale of its oil, the well will be plugged and abandoned. A great number of wells have already been abandoned on the west side of the field. There are several methods of producing that could be resorted to whereby more water could be produced from the wells. They are the installation of larger tubing, casing pumps, electrically driven submerged pumps, gas lift, etc., but it is believed these are all prohibitive because of the cost. Another reason for not producing great quantities of water is that the oil has been found not to increase as the water production is increased. In some cases the oil and water has been found not to even increase in the same ratio as volumes in production are increased.

Oil and Water Production

There has been pumped in this field on the west side as high as 1,700 bbls. of water per day. In tests that have been made, wells that were pumping around 500 bbls. of water with 20 bbls. of oil, it was found that when this water production was increased to 850 bbls. no substantial increase in oil was noted. This shows that where an abundant amount of water is withdrawn from a well that has a very thin section of saturated sand the oil does not always increase in amount as water production is increased. This might even lead to make us believe that by withdrawing water in great amounts, there is a tendency to hold back the oil by the water being drawn into the well bore so fast from below. Another feature that has a definite part is how much water can be produced economically with the disposal of the salt water after it is produced from the well. Salt water disposal is still in the experimental stage, but enough data has been secured that we know that the disposal of salt water is expensive in any form. Of course, the amount of water that can be pumped economically where the oil allowable is set at 20 bbls. is up to the operator himself depending upon numerous things. Some operators will be able to produce more than others. Nevertheless, it is believed the amount will be from 500 to 600 bbls. at the most.

It is impossible to say exactly how long a well will produce after it begins to make water. Several things must be taken into consideration to even attempt to do so. First, the location of the well relative to the extreme west side, the well density of the surrounding area, how much sand and what manner was the well originally completed, and whether or not the well can be plugged back successfully. From observation of a number of wells located on the extreme west side, these wells were all pumping and making approximately 50 bbls. of water in 1935. Now, three years later, 70 per cent of these wells are plugged and abandoned. This estimate will perhaps not hold true of wells located farther east because of a higher ultimate recovery figure and to the possibility of successfully holding back water by plugging back.

Obtaining oil by skimming, that is, pumping the wells from a depth less than its total depth will in all probability be detrimental to the well. It might cause the well to be plugged sooner than it would have been if the well has been pumped from bottom in the beginning. After a well begins to make considerable water, production can be obtained by skimming for a period of time, but eventually the pump will have to be lowered in order to obtain the oil. By skimming, the water fills up in the hole. This puts the water over the sand at all times and has a tendency to force the oil back away from the well bore. This has been substantiated by the action of some water wells that have been noted. Wells making several hundred barrels of water due to break-down, etc., have been allowed to stand several days before pumping was resumed. After pumping operations were resumed, the wells in some cases pumped several days before they began making oil again.

Due to large quantities of water that is being pumped out of several wells at this time and that is expected to be pumped out of all wells in this area, tubing less than 2½-inch size will be too small. The 2-inch tubing has already been replaced with larger size in some wells on the west side of the field. When a well is first put on the pump on the west side, the operator has a wide choice of pumps. This is because the amount of fluid to handle will be small. No particular advantage seems to be gained by the selection of a pump at first. Insert pumps, both of 2- and 2½-inch size are used in 2½-inch tubing. Common working barrels equipped with four, six, and eight cup valves together with some of the newer valves which have solid composition rings are also used. After the well begins to make a considerable amount of water, the insert pump is not satisfactory because it is not a volume pump. Liner pumps and a steel plunger are perhaps the best and most economical after great volumes of water are encountered. This is because of the fact that these pumps are made out of the very best grade materials that can be obtained. They are made to exact specifications so that the correct fit may be obtained to insure the best results. Valve cup manufacturers together with the manufacturers of the valves which use solid composition rings are making their products with considerable more thought being given to exact sizes. This insures considerable more efficiency than previously experienced with valves using cups and packing. As each well has its own pecularities regarding pumping, it is impossible to say what kind of a pump will be most efficient. What will pump one will not pump another. In some wells, pumping 500 bbls. of fluid, it is necessary to replace the pump every 30 days. Others run as long as six months before it is necessary to replace the pump. Both liner barrels and valves using cups or packing have been known to fail within 24 hours' time. Both have been known to run six months, pumping approximately 500 bbls. of fluid, so only by experience can the operator determine which type of pump is most efficient in each particular well.

For a considerable time after wells on the west side began making water, no particular example of corrosive water was experienced. This was due to the fact that there is not enough water being produced to cause any trouble to rods and tubing. Now, in some wells that produce several hundred barrels of Woodbine water per day, considerable trouble is being experienced with rods and tubing because of the corrosive action of the water. In some cases the body of the rod itself has been damaged to such extent to cause breaking and the rods had to be replaced. Most notable example of corrosion occurs in the boxes and pins where, because the joints are not made up properly, water finds its way to the threads crumbling them away, making the rods unfit for further use for pumping. Some few operators are buying two different types of rods for use in different parts of the field. Wells making considerable amounts of water should be equipped with special rods, while in the east side of the field medium carbon steel rods may be used. Water also attacks the tubing, noticeably where there is a slight leak in the tubing around the collar. A few cases have been known for the water to attack the threads and damage them to the extent of causing the tubing to part. This is very rare in this field at this time. At a later time when more wells are pumping water in great volumes, more trouble of this kind will be encountered. By making all joints up tight, taking particular precaution and eliminating all leaky joints, this trouble can be held to a minimum.

Rotary rig left standing at a producing well in expectation of a work-over job

On the west side of the field there are in operation daily central powers, multiple well hook-ups, and small geared units. This equipment will pump these wells only until its pumping capacity is reached. This kind of equipment capable of pumping less than 300 bbls. of fluid will not pump these wells to depletion. The operator who has installed standard rigs and individual units of not less than 30-hp. size and engines proportionately as large will be able to pump his wells until they are exhausted. Already a great number of wells have been equipped with individual units that formerly were pumped by central powers and back-side cranks. One reason why multiple well hook-ups and powers will not be efficient where volume pumping is needed is because for these wells to pump with equipment of this kind all of the wells must be balanced against each other as nearly as possible. Since each well is not like all others in water production, weight, etc., some wells will have to be pumped at a different speed and length of stroke, in order to obtain their allowable in oil. This is practically impossible with powers and multiple well hook-ups. Many operators who now have this kind of equipment in operation on the west side installed it with the knowledge that perhaps it would not be able to pump a volume of fluid necessary to produce the oil allowable. They own properties in other parts of the field where the powers and small units can be transferred to pump later when those properties quit flowing. Then larger units can be installed on the west side wells.

Conclusion

There are many minor problems confronting the operator who is pumping wells in the field. These will all be worked out by the operator himself to suit his particular needs. There are possibly but three major items to consider when putting a well on the pump. First, be sure that the well is in a condition to pump; that is, be sure that the fluid can get into the well bore by having the bottom of the hole clean. Second, select and install properly the pumping equipment. This is governed by the particular location of the well; that is, whether it is in the east side, middle, or west side of the field. Third, be sure that the subsurface equipment, rods, tubing, and pump are of the proper size and type to pump the volume and nature of fluid necessary.

Acknowledgment

The writer has prepared this paper of his own knowledge and by information obtained from interviewing many other persons who live and work in the field. To them the author is indebted and to the Sinclair Prairie Oil Co. for permission to prepare this paper.

Drawworks, pump and engines staked back from well—West Texas clean-out job, under mast. Workman is taking sample of cuttings

Cleaning Wells in West Texas by Reverse Circulation

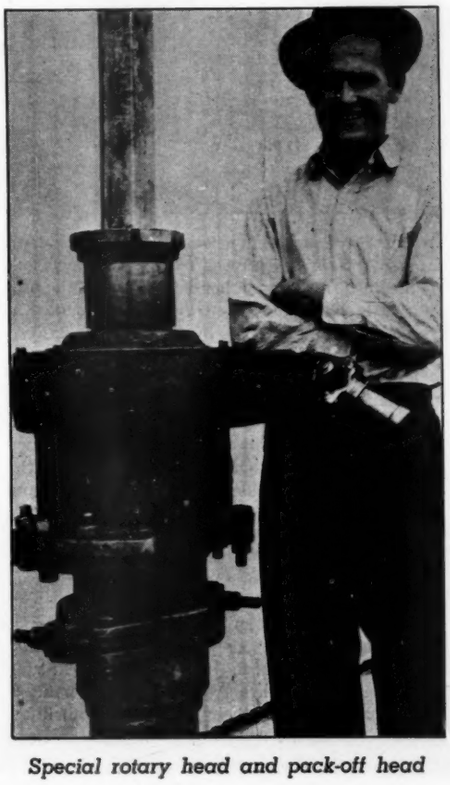
By D. H. STORMONT

Use of "reverse circulation" for cleaning wells, following their being shot, has become widespread in West Texas in recent months. In the North Cowden, Harper and Foster fields, especially, use of the process has increased until some companies employ the method entirely for cleaning out shot holes. In these areas production in many cases is obtained from sand or secondary anhydrite pay zones so that acidization is not feasible. Thus operators are required to shoot their wells and then clean out by conventional methods or with special means such as the Beckman process of reverse circulation.

This method of cleaning out takes advantage of the column of fluid having the highest velocity to carry out cuttings and debris from the hole. Under normal circulation in drilling or cleaning out, the fluid is pumped down the drill stem and returns to the surface through the larger annular space between the drill stem and casing or hole. Most of the cuttings are eventually removed from the hole by this method, but with "the reverse circulation process" the higher velocity of the fluid up the tubing floats them out as fast as they are cut by the bit.

All equipment used in cleaning out the shot hole is carried on two trucks and as soon as the well is shot the drilling rig is moved off and the Beckman equipment moved in and set up. Gas engines and generators used are set up 75 to 100 feet away, on the windward side of the derrick, which is left intact, in order to reduce the fire hazards to a minimum.

A 4- by 6-inch gear drive duplex pump, driven by a 50-hp. gas engine, has been found to be sufficiently large to circulate the oil at the desired velocity in 2- or 2½-inch tubing. Power for the rotary motor is supplied by a 10-kw., 110-volt d.c. generator, also gas-engine driven. An ordinary servicing hoist of the type used in pulling tubing is used as a drawworks. The 10-inch rotary table is driven by means of a shaft and universal joints connected to a totally enclosed 7½-hp. shunt-wound motor. A special 26-foot hexagonal kelly, so designed to provide a maximum water course with minimum outside diameter, is used with the small table. Remainder of the special equipment used consists of a 250-bbl. circulating tank, or small slush pit, a manifold controlling the direction of flow of the oil being circulated (either normal or reverse), and pipe and fittings for the oil circulating system.



Special rotary head and pack-off head

One of the chief objectives of the process is to obtain a relatively high fluid velocity so it is important that the inside area from the bit to the discharge end of the rotary hose be uniform. The special kelly and swivel used have large and uniform courses and the drilling bits are equipped with one large opening. Thus it is possible to obtain a fluid velocity sufficiently high to carry out cuttings and even large pieces of steel while using a low-pressure and low-capacity pump. Some idea of the savings in power requirements made possible by the process may be gained from the following illustration:

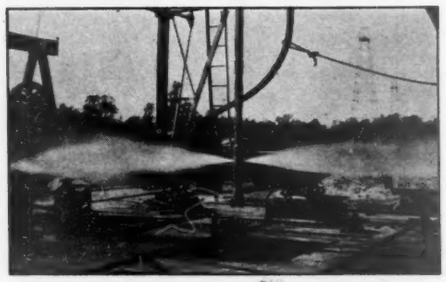
Using 2-inch tubing in 5-inch casing, the area of the tubing is 3.14 square inches and that of the casing 19.63 inches. Thus the net annular area outside the tubing is 15.2 square inches (19.63—4.43 =15.2) or the tubing area compared with the annular space is equal to the ratio of 1 to 4.86. Tests have shown that pumping water through 2-inch tubing at the rate of 40 gallons per minute gives a 4.05 feet per second velocity with a friction head or loss of 16 pounds per 1,000 feet depth. Therefore, the theoretical horsepower required for a 3,500-foot well would be 1.3.

Using normal circulation and pumping down 2-inch tubing to discharge through the casing at a velocity of 4.05 feet per second would require the circulation of 194 gallons per minute at a fluid velocity of 19.7 feet per second in the 2-inch tubing. Under these conditions the friction loss in the tubing would be 360 pounds per 1,000 feet, 1,160 pounds for a 3,500-foot well, or a theoretical horsepower of 109 would be required.

Tests have shown that ordinary cuttings could be carried out at from 2 to 4 feet per second, requiring from 10 to 25 hp. actual; the oil is circulated at a velocity high enough to rapidly remove all debris from the hole.

After the tubing, which is equipped with a rock

bit having 1¼-inch to 1½-inch water courses, has been run, the cleaning out process is started. Oil is circulated down the casing or tubing until the



Washing tool in action at surface to demonstrate high velocity fluid stream, 1,000 to 2,000 feet per second

hole is cleaned of all debris. As much as 250 to 500 feet of shot section is cleaned in most wells, over 50 bbls. of solid material being removed.

By the means of a recently devised washing tool the side walls of the shot section are thoroughly washed. This tool is placed in the drill stem just above the bit. In its operation normal circulation is used; a fiber ball placed in the tubing is pumped down to the tool where it forces down a liner and opens the side ports through which the oil discharges. By rotating the drill stem, moving it up and down the hole by means of the high velocity stream of the oil striking the side walls, all loose material is washed from the walls to the bottom of the hole. Reverse circulation is then reestablished and this loose material cleaned out.

Rotating speeds as high as 50 r.p.m. are used with a weight on the bit of around 200 pounds per inch cross section. Due to the design of the rotary motor, however, it is possible to vary the rotating speed of the drill stem over a wide range by increasing or reducing the amount of field resistance. This is done with the speed of the gas-engine generator unit being held constant. Using the relatively small rotary motor of 7½ hp., the power input to the rotary table is definitely limited. It is so geared that it is almost impossible for the motor to produce sufficient torque to twist off or seriously injure the tubing used as a drill-stem. If the bit sticks, the motor is stalled, and the driller has to lift the bit off bottom in order to resume cleaning out.

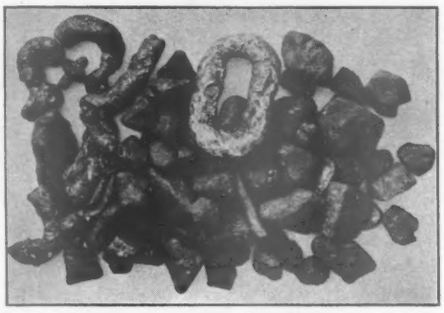
Several advantages are offered by use of "the reverse circulation process" in addition to those gained by using oil as a circulation medium. Chief of these, probably, is the fact that the shot hole is thoroughly cleaned and the producing formations not mudded off so that the well upon completion will have a higher potential. In several instances in West Texas, wells cleaned out by "reverse circulation" were completed as flowing wells, whereas the offset wells required pumping. Since the wells are completed with oil, thereby avoiding any contamination with mud or water, conditions in the pay formations are favorable to a higher ultimate recovery.

An additional advantage of the method is that the rotary rig may be moved to a new location as soon as or before the well is shot, thus allowing it to start a new well several days sooner. Actual time for cleaning out wells by reverse circulation is about one-third of that required by cable tools, thereby allowing returns on the investment to be started that much quicker.

The method has been used on six or seven wells in West Texas for drilling in, but at first, due to the slow rotary speed, the drilling rate was not entirely successful from a cost standpoint. Rotating speeds, however, have been increased greatly and it is possible to drill in most wells faster than with either rotary or cable tools.

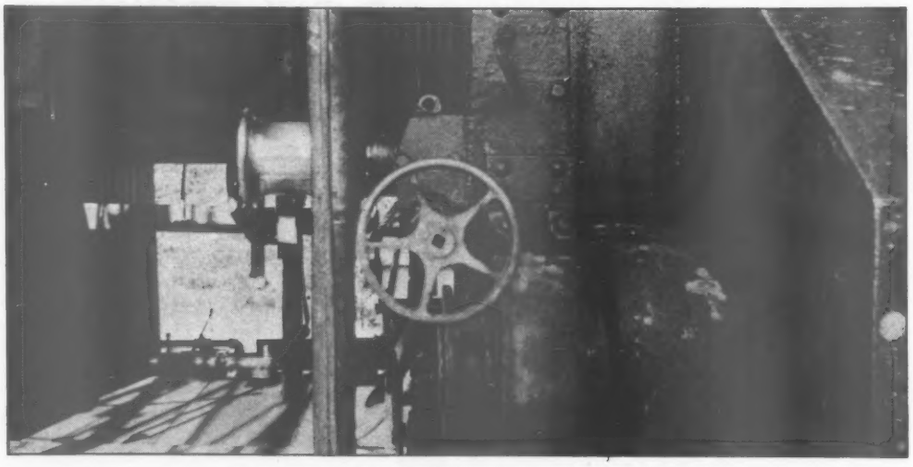
In drill-ins, the rotary is moved off as soon as the oil string is cemented. Later, when the cement has set the drill-in equipment is moved on. After the tubing equipped with a rock bit having a 1½-inch to 1¾-inch water course has been run and circulation established, the cleaning out process is started. Water is pumped down the casing to wash out all mud and debris that might be in the casing. The water is then displaced by weathered crude, used because of its lesser fire hazard, being pumped down the casing and forcing the water out through the drill stem. With oil circulation established drilling-in is started. The pump pressure is put on the casing and the return coming through the tubing is turned into a tank or slush pit where the cuttings settle out.

The pump pressure required for a 4,500-foot well will vary from 140 to 160 pounds per square inch. A weight of about 1,500 pounds per inch cross section of bit is maintained. The rotary speed varies between 80 and 85 r.p.m. This method is covered by several patents that have been granted and others that are pending.



Chain, iron, and steel carried up from 4,500 feet with oil through 2½-inch tubing. West Texas clean-out.

SAFETY— Clutch Throw Out Line Near Throttle



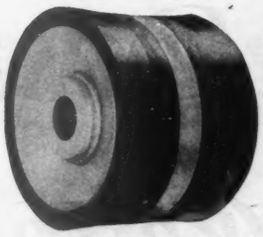
One of the most dangerous and costly accidents on a rotary rig is described by drilling crews as a "run away," meaning either a dropping of the pipe and block or ramming the traveling block into the crown block. The latter is by far the more dangerous to the men and more costly to the contractor owning the rig.

When going in the hole the traveling block traverses the distance from the floor to the derrickman's position in about 8 seconds and on ordinary derricks this means that the distance between the crown and traveling block when picking up a stand is such that less than one second will jam the two blocks together.

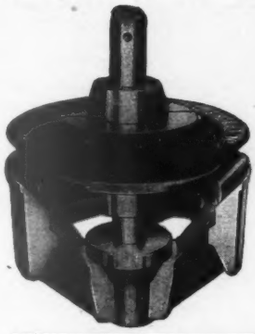
Time is an important element when the drilling line is spooling on the drum at a rapid rate and the driller suddenly discovers that he can get neither drawworks nor the reduction gear clutch disengaged. Yelling at his crew generally produces little results in the way of aid as in such emergencies the desire to get to a safe point is usually uppermost in their minds. They all know that the instant the traveling block hits the crown one of two things will happen: either the drilling line will part and the blocks drop, or the derrick will be pulled in.

Not more than a second elapses from the time the driller discovers the rig is out of control until the crash occurs, in most cases. It is essential that there be some way to instantly stop the drive on the drawworks. Disengagement of the motor clutches will accomplish this but they are located some distance from the driller and the foresight of the drillers and toolpusher determines whether some arrangement has been provided whereby the clutches can be thrown out from the driller's working position.

On the jackpost to the left and above the throttle wheel is located a wire line with a handle on it. This line connects directly to the motor clutches and pulling on it will disconnect all power from the drawworks instantly, thus averting a bad wreck. It doesn't seem important just hanging there, and when the crews are installing it, they hope it will never be necessary to use it; but it is a life preserver when, with every fraction of a second, the distance between the traveling block and crown block is growing less and less.



MISSION PISTON



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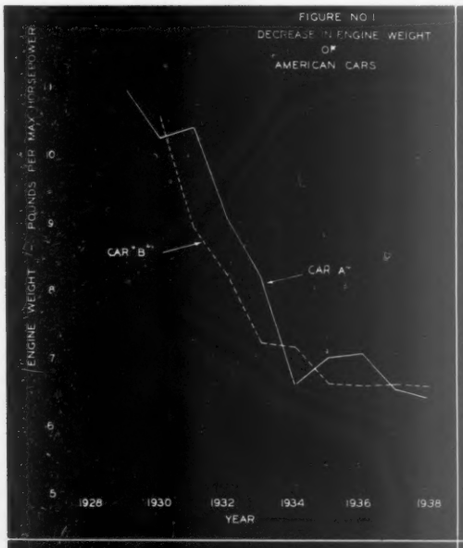
Automobile Engine Design and Modern Refinery

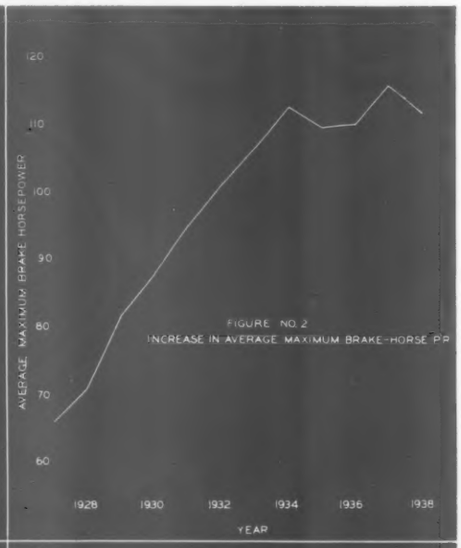
By W. W. SCHEUMANN
Cities Service Oil Co.*

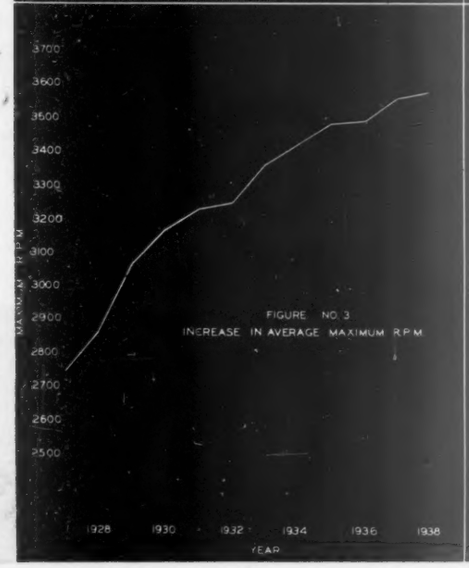
THERE exists today a general realization that the continued development of improved automobile engines and fuel systems, and improved fuels and lubricants, is an interrelated problem which demands continued cooperative effort on the part of the automotive and petroleum industries for further progress. A review of the developments made in this field during the last decade indicates many cases of splendid cooperation, but it also points out numerous instances where this spirit of cooperation was lacking. Changes and innovations have been introduced by the automotive industry without previous advice to the petroleum industry and, as a result, the refiner in numerous instances has had to develop products, on very short notice, to meet resulting requirements. Fortunately this has applied chiefly to special products such as free wheeling lubricants, hypoid lubricants, and the like, and not to major products such as motor fuels or motor lubricants.

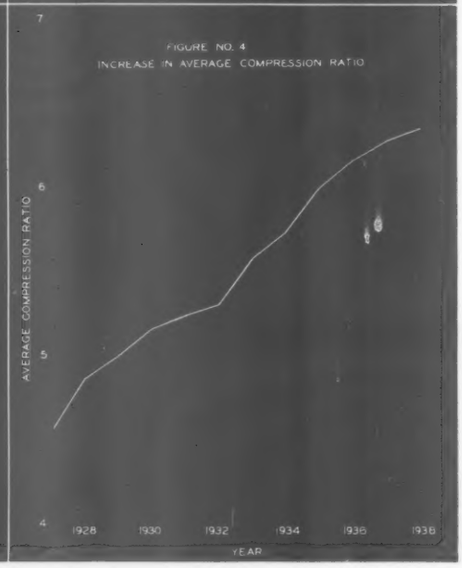
Changes in automobile motors affecting fuels or lubricants have been in accordance with a definite trend, and as a result the petroleum industry has had a fairly definite realization of the direction in which it should move with reference to its research and development work on these products. Even in the case of motor fuels, however, the refiner feels that he has been in an unsatisfactory position, as requirements have steadily increased which, in turn, have increased his operating expenses and caused rapid obsolescence of his equipment. At the same time, automobile fuel systems have imposed restrictions which have been a definite handicap as they do not permit him to take fullest advantage of his production of light hydrocarbons.

A further complication of the problem is due to the unsatisfactory economic conditions and motor fuel price structures, which in many cases do not adequately repay the refiner for the added expenses required to produce fuels of the necessary qualities or, at least, give little justification for the installation of newer equipment or processes, except on the basis of reduced manufacturing expenses.









Changes in Automobile Engines

Competition in the automobile industry has demanded that the automobile builder continually improve his yearly models[1]. . . .

Figure 1 shows the change in engine weight per maximum brake horsepower, over a period of years for two typical, popular priced American automobiles.[2] While the numerical figure may not be an average of all cars, the results are typical and clearly indicate the decrease in engine size and the simultaneous increase in power output which has been obtained and which characterizes the modern automobile engine.

Figure 2 shows how greatly the power output of automobile engines has been increased since 1927. In Figures 3 and 4 is shown the corresponding increases in engine speed and compression ratios respectively, and which explains how the previously mentioned increased power output has been obtained.

Figure 5 shows the increase in the average brake mean effective pressure and indicates more correctly the higher average cylinder pressures encountered in the modern automobile engine than does the compression ratio increase, as it includes such factors as valve timing, volumetric efficiency, and other engine design factors which relate to the absolute pressures during operation.

These changes in engines are responsible for improved performance, power, and efficiency. They also, to some extent, are responsible for the improved smoothness of the modern engine. Another factor, however, is also partially responsible for this characteristic, namely the use of a number of cylinders, in the engine, and therefore a smoother flow of power impulses. The extent to which this change has occurred is shown in Table 1.

This increase in the number of cylinders in the

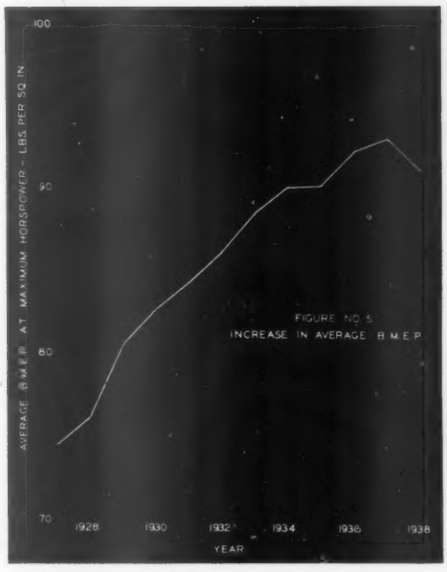
TABLE 1—CLASSIFICATION OF AUTOMOBILE ENGINES BY NUMBER OF CYLINDERS*

Year	Per cent Four	Six	Eight	Twelve and more
1927	49.7	47.1	3.2	. . .
1928	50.7	45.0	4.3	. . .
1929	40.7	54.3	5.0	. . .
1930	44.5	43.6	11.8	0.1
1931	33.3	52.0	14.5	0.2
1932	17.9	50.4	31.1	0.6
1933	3.2	61.8	34.7	0.3
1934	1.2	59.8	38.8	0.2
1935	0.5	59.6	39.4	0.2
1936	0.5	66.5	32.4	0.6
1937	1.5	63.5	34.2	0.8

*Based on production of new cars.

*Author's title, "Motor Fuels Demands on Petroleum Industry by the Modern Automobile Engine."

n Governs y Methods



modern engine has done much for smoother performance, but it is also not without significance to the refiner, due to increased difficulty in securing a uniform fuel mixture to all cylinders, and the effect of this on fuel requirements. . . .

W. P. R. A. **— Presented before technical group Western Petroleum Refiners Ass'n. meeting at Shreveport, La., Oct. 28**

If a given gasoline were burned in a series of engines of increasing compression ratio or increasing compression pressure, it would be noticed that, in general, the amount of detonation or knocking increases with the higher compression pressures. Therefore, the steady increase of compression pressures in the automobile engine has demanded a corresponding increase in the ability of the fuel to resist detonation. This property of motor fuels is expressed in terms of octane numbers. The octane number being the per cent of iso-octane (2,2,4 trimethyl pentane) in a blend with normal heptane, which has the same knocking characteristics as the fuel in question, when tested in accordance with a specified procedure on a specified test engine. This test has been in general use only since about 1931 and has undergone several modifications since that time. Actual averages are, therefore, not available; however, Brown[3] has estimated the average values from 1927 to 1935, and additional values have been secured from surveys of motor fuels marketed. Figure 6 is therefore an estimated curve, showing the increase in the average octane number of regular or house-brand fuels over a ten-year period. In 1928 it is estimated the average octane number of house-brand gasoline was 51, while today it is approximately 71 (A.S.T.M.) This represents a tremendous change in the character of such gasolines and, judging from Figures 4 and 5, the trend of engine compression pressures is still upward, which means a corresponding continuation of the octane number increase.

Complicated Refinery Problem

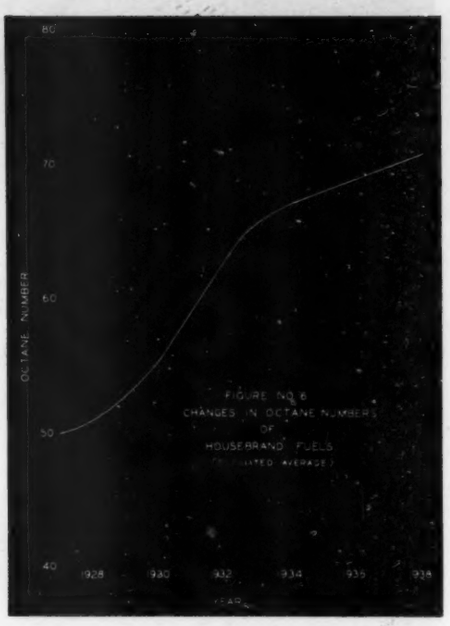
However, the refiners' problem is vastly more complicated than appears on the surface. Simply increasing the octane number is only a partial solution of the problem of supplying satisfactory fuels for modern engines. In any line of endeavor a constant standard of comparison capable of satisfactory gradation is necessary if the progress made is to be quantitatively determined. The octane number scale has been the refiners' standard for measuring the improvement in, and establishing the anti-knock characteristics of his fuels. Paradoxically, however, the octane number lacks considerable of being a true standard for such use. The ultimate value of motor fuel is determined by its behavior in actual service. This criterion is, however. so very complex that it can only be considered in terms of generalities, and can be used by the refiner only to a very limited extent. Under the guidance of the Cooperative Fuel Research Committee, five extensive test programs have been carried out for the purpose of correlating laboratory octane numbers with road performance. These have all shown that in many cases, wide divergence may be expected not only between cars of different makes and models, but between different cars of the same make and model. When we consider that the severity of detonation of fuels in an automobile in the hands of an average driver is judged (1) by his objection to the sound produced (and this way may vary greatly with the individual) and that it also depends upon (2) fuel factors such as the inherent anti-knock quality of the gasoline, (3) engine factors, such as compression ratio, spark advance, manifold design, carbon accumulation, etc., and (4) operating factors such as speed, road grade, atmospheric temperature, humidity, and others, it seems very problematical if any laboratory method can ever be devised which will be a precise index of fuel anti-knock performance in the automobile. The refiner is therefore handicapped by the fact that his guide and accepted quality standard lacks accurate significance.

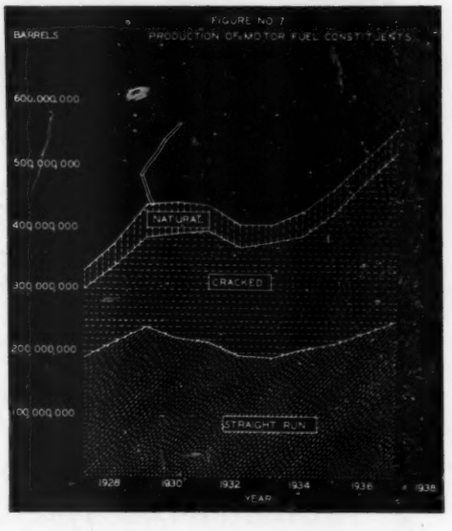
Vast amounts of research and development work have been directed toward the solution of the anti-knock problem. In general, the refiner is using two methods for the production of such fuels, namely (1) the addition of tetraethyl of lead to his gasoline and (2) the production of gasolines containing hydrocarbons whose chemical structure is such that they possess high auto-ignition temperatures, and low rates of reaction increase with temperature, the requisites of high natural resistance to detonation.

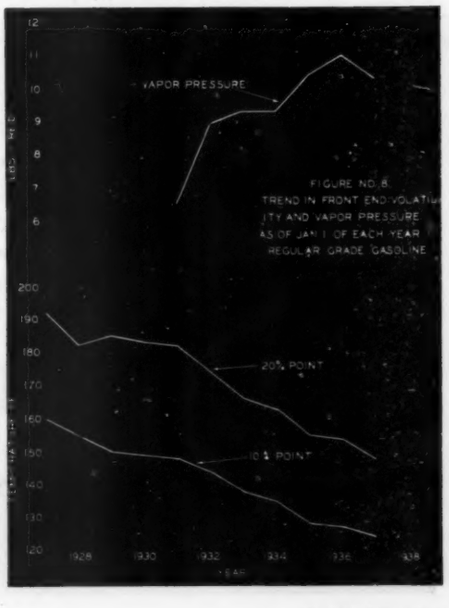
The use of tetraethyl of lead for octane number improvement of gasoline is now so widespread that it practically constitutes standard practice. A conservative estimate indicates that at least 75 per cent of the gasoline sold today contains this anti-knock agent in concentrations of from 0.1 to 3.0 c.c. per gallon. Originally fuels treated with tetraethyl of lead were only sold as premium grade fuel; however, since 1933 it has also been a constituent of house-brand or regular grade gasolines.

In spite of the fact that, as the use of tetraethyl lead increased, it has been manufactured at lowered costs and that such savings have in large measure been passed on to the refiner, the addition of this

(Continued on Page 90)







CAMERON Type SDA Blowout Preventer and Type DV Master Gate — Both Pressure Operated — Used on Deep Test at Chickasha, Okla.

Projected to a total depth of 12,000 feet, Smith No. 58, Chickasha, Oklahoma, is safely protected against blowouts by a Cameron Pressure Operated Drilling Control Hook-up, as pictured above. The Cameron Type SDA Blowout Preventer provides swift, positive control while drill pipe is in the hole. The Cameron Pressure Operated Master Gate Valve assures fast, dependable closure of the well bore when pipe is out of the hole. Both units are operated by hydraulic pressure, through an enclosed fluid system. Independent locking screws permit locking the preventer rams or the valve gate in the closed position.

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Power for hoisting and rotating drill stem is provided by two 350-kw. direct-current motors driving through a compounding gear box. Each motor is equipped with a blower, driven by a 5-hp. motor, which provides cooling air to the field winding and armature

CARTER

(Continued from Page 31)

serve to the circulating pit via the shaleshaker. The circulating pit has a capacity for approximately 9,740 cubic feet of mud which can be agitated by three conveniently located 2-inch mud guns.

A most convenient mud plant is situated on the edge of the suction pit. Housed in a steel building, both mud mixer and an adequate supply of sacked mud are available for immediate use; a stock of fibrous and weight controlling admixtures is kept on hand. The mud mixer is of the jet type built to the toolpusher's specifications.

Automatic mud sampler takes small portions of mud from the flow line and separates the fluid and solids. Fluid can then be analyzed for gas content, viscosity, weight and wall building properties

Technical Supervision

A geologist and an engineer are on duty at the well at all times. Telephone service has been installed to expedite communication.

In charge of the engineer and geologist, a field laboratory is maintained on the location. Periodically, throughout the day and night, the mud is tested for gas content; weight and Marsh viscosity are determined also. Samples are centrifuged with Stabolite to detect oil.

Once a week the Baroid field service visits the location for the purpose of determining the wall-building characteristics, salt content, hydrogen ion concentration (Wolfe method), and Stormer viscosity of the mud.

Respiratory Protective Devices Approved by Bureau of Mines

A list of approved respiratory protective devices has just been published by the Bureau of Mines, U. S. Department of the Interior.

To assure that safe, satisfactory, and reliable respiratory protective devices will be available, the Bureau of Mines has established schedules of minimum requirements for oxygen breathing apparatus, gas masks, supplied-air respirators (hose masks, airline respirators, and abrasive blasting helmets, hoods or masks) and mechanical-filter respirators.

Manufacturers of such devices may submit their equipment to the Bureau for test and approval under the requirements of these schedules. Not only must the manufacturer's devices meet the bureau's requirements, but he must have satisfactory equipment for controlling their quality. If all these requirements are met, the manufacturer is granted a certificate of approval showing that the equipment has passed the schedule of requirements and giving the limitations of the apparatus. He may then advertise his devices as approved by the Bureau of Mines. The bureau may, of course, rescind the approval for cause.

Lists of approved devices are published periodically for the information of the public. The present report, designated as Information Circular 7030, by H. H. Schrenk, lists all devices approved to May 20, 1938. Copies of the information circular may be obtained from the Bureau of Mines, Washington, D. C.

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The Abercrombie Pressure Gauge, selected for mud line service on this important 12,000' project, is likewise the choice of operators throughout the country, despite its comparative recent introduction to the market. The many advantages afforded by its entirely new principle have put it on the approved list wherever it has been tried. These advantages are explained in detailed literature, gladly sent you, upon request.

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ABERCROMBIE PUMP CO.

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PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Identification of Cuttings

In drilling some of the Permian formations of West Texas I have had some trouble in identifying the three calcareous or lime-bearing rocks; calcite, dolomite and gypsum and anhydrite. Can you give me some field methods that are reliable for this identification purpose? —N. E. F.

Calcite, or spar, is identical in composition with pure limestone. In most limestones this main ingredient is mixed with some clayey material, and consists of crystals of such small size as to be entirely invisible to the unaided eye. The rock appears to be a structureless mass. The mineral is carbonate of lime, and hence consists of calcium in chemical combination with oxygen and carbon. When burned in a kiln it loses its carbon and forms quicklime. Its hardness is less than that of soft iron and it is easily scratched by a knife. Limestones in which the calcite crystals are large enough to be readily made out by the naked eye are often described as "crystalline lime" by drillers.

Dolomite is a mineral slightly harder than calcite. It is a carbonate of lime and magnesia, and is not as readily affected by acid as limestone, which is carbonate of lime. Dolomite is rare except as it occurs in dolomitic rocks which are particularly common in the Ordovician and the Permian series of formations in Texas.

Gypsum and anhydrite both consist of sulfate of lime. Gypsum contains in addition some water, while anhydrite is free from combined water. When gypsum is heated it loses its water and is said to be calcined. In this state it has the same chemical composition as anhydrite. Neither of these minerals effervesce when subjected to the action of acids. Both are softer than calcite or limestone and can be carved with a knife. The crystals of clear gypsum, known as selenite, have acute and obtuse angles and they have good cleavage in the direction of their length and breadth. They will split into thin leaves, which can readily be bent but which will not spring back to shape, as do the thin leaves of mica. On account of its resemblance to mica, crystalline gypsum is often incorrectly called "isinglass." Anhydrite differs from gypsum in its cleavage. It breaks straight in three directions which are at right angles to each other. Hence cuttings of anhydrite often have sharp, square angles.

Gypsum occurs in many clays and shales as separate crystals. It frequently has formed from the disintegration of pyrite in marls and other calcareous material. It is usually rare at depths below 400 or 500 feet. Below this depth anhydrite mostly takes its place. This mineral occurs in extensive beds in association with the cap rock of the Gulf Coast oil fields and underlies extensively the red beds of Northwest Texas.

By crushing a sample and washing in clear water to remove the very fine powder the remaining crystals can be examined by aid of a magnifying glass and the gypsum, anhydrite, calcite and dolomite fragments will be seen as flat, shiny, glittering and crystalline surfaces, and sharp angles.

Then select some of the better fragments of the material that has been crushed and washed and powder them carefully and place this powder in an inverted saucer into which a few drops of 20 per cent hydrochloric acid has been placed and if they are of limestone, or calcite, they will effervesce briskly; if of dolomite they will effervesce more slowly and if of gypsum or anhydrite effervescence will be lacking. It might be well to watch this reaction through a magnifying glass so that the degree of reaction can be carefully noted, and the test may be carried on by using small clean crystals selected from the crushed sample if a few drops of the hydrochloric acid are dropped on them and the reaction noted.

These methods are simple and can be carried on on the derrick floor if ordinary caution is used in handling the hydrochloric acid which should be kept in a small glass-stoppered bottle.

Vapor Pressure for Stock Tanks

I have often heard the term "vapor pressure" used in connection with making tanks tight to stop evaporation and will appreciate it if you will give me some simple definition of this term as used in this manner.—N. E. I.

A definition of this term as given by J. H. Wiggins, in Bulletin 200, issued by the Bureau of Mines and covering "Evaporation Loss of Petroleum in the Mid-Continent Field," is:

"The vapor pressure of a liquid is the pressure that the vapor from the liquid will set up in a vacuum before evaporation ceases, or it is the partial pressure that the same liquid would set up in a closed vessel containing air."

Mr. Wiggins goes on to explain that for the same liquid this pressure will vary, rising with increase of temperature. Hence vapor pressure determines the proportion of gasoline vapor that a given volume of air will take up. The lighter the fraction distilled from the crude oil, the greater is its vapor pressure.

The percentage of gasoline necessary to saturate air varies as the gravity of the gasoline changes. This makes it difficult to predetermine any fixed pressure that should be placed on a tank in sealing it against evaporation losses if it is attempted to take into consideration the vapor pressure of the oil. In any event it will be quite high and a table prepared by Wilson and Barnard and shown in Technical Paper 319 showing the vapor pressure of an average sample of oil varies from about 3 inches of mercury pressure at 45° F. temperature to slightly over 24 inches of mercury pressure at 200° F.

The upper range of temperatures given in this chart are of course much beyond those that would be normally expected in tankage, but if 90° F. is taken as a comparative condition it is found that this would equal 5 inches of mercury or would develop a pressure of 2.45 pounds per square inch above atmospheric pressure.

This pressure would be too great for use on the ordinary type of bolted steel tank and there would be little to be gained by it even if it could be applied, for as a matter of fact if the tank is sealed at a pressure slightly above atmospheric say from 3 to 9 ounces, evaporation losses will be reduced to very nearly nothing, and such losses as do occur will be those caused by the "breathing" of the tank, that is the expelling of heated air saturated with light hydrocarbons during the day under higher temperatures and the drawing in of cooler air at night which must be in turn saturated with hydrocarbon vapors.

Bureau of Mines Bulletin 200, and Technical Paper 319 by J. H. Wiggins cover the subject of evaporation losses quite fully.

Boyle's Law

I have noticed the reference to "Boyle's Law" in a number of articles dealing with air- and gas-lift problems and will appreciate some explanation of what this law means.—W. S. O.

This law deals with the action of a perfect gas and comes under the head of thermodynamics and is stated:

"At constant temperature the product of the pressure and the volume of a given mass of gas is constant."

It appears that this principle was discovered independently by Robert Boyle in England in 1662 and by Mariotte in France in 1676 and is known in the respective countries by the name of the discoverer.

A very good example of Boyle's Law is seen in the action of the common popgun. A pellet or cork is inserted in the closed end of the tube and a tight-fitting piston is pressed into the other end of the tube and when this piston is quickly pushed in, the force of the compressed air drives the cork out.

The increase of air pressure by compression was known to Ctesibius (150 B. C.) and applied by him in the construction of air guns. The popgun is the simplest form of an air gun. The law is sometimes stated by saying that "pressure varies inversely as volume," but in applying the law, this form of statement is less convenient than the one given above.

Soil Analysis Surveys

I understand that soil analysis surveys are suitable for mapping possible shore line or other type traps where oil accumulation is due to stratigraphy rather than structure. Can you tell me if this is true? If so, how should such surveys be conducted?—M. T.

Soil surveys attack the problem of discovering new oil fields from a new angle in that they receive their significant indications from the petroleum deposit itself, rather than from structure alone. Hence, it is possible the chemical methods of prospecting offer attractive possibilities for detecting deposits in stratigraphic traps.

In preparing to do work of this kind in unexplored areas, it is very important that competent geologists be used before doing soil survey work in order that they may work out the stratigraphy of the area from well logs and other information; thus narrow down the prospective region as much as possible. Having established the fact that petroliferous beds pinch out in certain directions, the soil sampling lines would properly be run approaching the uplift. Interpretation in this type of prospecting is made from normal hydrocarbon soil content, so any noticeable variations, say from 3 to 10 times normal, would be considered significant. These high showings would persist approximately over the length of the deposit. Short lines could then be run parallel to the reconnaissance lines in order to tie down the length and width of such stratigraphic deposition.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Preparing Doctor Solution and the Essential Principles of Its Use

Do you have any material that would explain the making of the best doctor solution? We have sometimes to treat a batch three times due to sourness and brown color.—R. C. S.

The sweetening of petroleum distillates by means of sodium plumbite, or doctor solution, is for the purpose of removing mercaptans, the substances which give the product a bad odor, without appreciable reduction in the sulfur content. The mercaptans react with the doctor solution to form yellowish to orange precipitates, which on standing turn brown and finally black. If hydrogen sulfide is present in the distillate, a black precipitate forms immediately upon adding doctor solution. It may be confirmed either by the distinctive odor, the darkening of silver, and the application of the well known lead acetate test. A distillate of this type should be treated for the removal of hydrogen sulfide before being brought in contact with the doctor solution, to prevent loss of lead.

Free sulfur may be found in gasoline and kerosene, usually being introduced by over-sulfuring in the doctor treatment. If free sulfur is suspected to be present it may be detected by means of a simple test. A sample of the product is thoroughly shaken with a small quantity of sodium plumbite solution, about one-quarter of the volume, then add about 2 cc. ethylmercaptan. a yellow precipitate indicates no free sulfur but a heavy black deposit indicates the presence of free sulfur. The treatment of an oil containing free sulfur is suggested by this test. That is. mercaptans should be added before the sodium plumbite solution. The refiner may use a small quantity of a sour distillate for this purpose.

The doctor solution is prepared by dissolving sodium hydroxide in water to make a liquid of a concentration which may range from 12° to over 20° Be., or 8 to about 14 per cent NaOH. Many refiners use a solution of 12° to 16° Be., and in a few instances as high as 30° Be. Litharge is dissolved in this solution to saturation, which is about 1.5 to 3 per cent, and the solution allowed to settle. The heavier solutions act quickly and require but a short time to settle.

It is always advisable to water wash and to contact the raw product with a weak, 2° to 4° Be., solution of caustic before use of the doctor solution. It is not good practice to add either sulfur or litharge direct during the sweetening operation; they should always be introduced in solution form. In continuous systems the sulfur. in the form of brimstone, may be packed in a small tower through which a part of the stream of the raw gasoline is directed upward and then out into the main stream as it enters the plumbite solution. The litharge should be in solution because it does not react in the solid form and results in loss. When treating batch it is especially important that the chemicals be in solution. The doctor solution should be prepared and a solution of sulfur made by dissolving some sulfur in a small portion of the distillate to be treated, then introduce portions of this solution as may be required. After a little experience the treater learns to measure the sulfur from a solution more accurately than any other way. The solution should be cold because cold normal gasoline dissolves a maximum of 0.5 per cent, in exceptional instances possibly 1 per cent, and in the quantities used. an excess is easily absorbed in the solutions. Over sulfuring will seldom take place if this precaution is observed. A brown coloring of the finished product may be caused by the use of insufficient sulfur because of the formation of a colloidal lead sulfide, mercaptides and other intermediate products.

The sweetening operation should be under constant observation by a competent chemist. The actual content of alkali in the doctor solution should be determined at regular intervals; it is not advisable to rely simply on a gravity determination. The analysis for lead content should be a matter of daily routine; the method of Schuessler and Todd, in which a standard ammonium molybdate solution is used for the titration, with tannic acid as an outside indicator, is both rapid and convenient. The copper dish method or the polished copper strip will serve to indicate the presence of corrosive compounds. The test with mercury is convenient for detecting the presence of any free sulfur, or the test may be made with mercaptans and the sodium plumbite solution as above suggested. The doctor test must be frequently made to determine if the product is free from mercaptans and sweet.

References: Schuessler and Todd, The Oil and Gas Journal, March 10, 1927, p. 200.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Acetic Acid

(Glacial Acetic Acid)

Use—Forming soluble salts in waterflooding.

Form—Colorless liquid with characteristic pungent odor.

Formula—CH_3COOH.

Molecular weight—60.03.

Specific gravity—1.058 (99 per cent).

Melting point—61° F.

Boiling point—244° F.

LIMITATIONS

Purity, min., per cent	99.5
Oxidizing substances	None
Residue, max., per cent	0.001
Freezing point, °F.	59

Note: A common grade of acetic acid is a water solution containing 36 per cent, having a specific gravity 1.045 at 68° F. This product may be obtained of many different strengths, indicated by percentage of acetic acid in solution or specific gravity.

Analysis of Oil From Deep Sand in Healdton Field

An analysis is desired showing the general qualities of the oil produced from deep wells, around 8,000 feet, in the Healdton field, and if you will furnish this the favor will be appreciated.—S. N. E.

ANALYSIS OF HEALDTON OIL FROM DEEP FORMATION

FOX POOL

Location
Carter County, Oklahoma
J. A. Johnson No. 1
Sec. 27-2s-3w
Producing from 7,815-7,970 ft.

Analysis		
Gravity, A.P.I.		43.3
Viscosity at 100° F.		37
Pour, °F.		30
Sulfur, per cent		0.18
Distillation		
Initial boiling point °F.		95
Per cent over		°F
10		212
30		356
55		554
59		590
Residue per cent		40
Products yield	Gravity	Per cent
Gasoline	63.5	35.6
Octane No. 46		
Distilling to 392° F.		
Heavy naphtha	47.4	4.5
Distilling range °F. 392-428		
Kerosene	43.2	11.9
Distilling range °F. 428-518		
Residue	28.8	47.4
Visc. at 100° F.	184	
Pour °F.	60	
Sulfur, per cent	0.43	
Carbon residue, per cent	1.64	
Properties of the gasoline		
Gravity, A.P.I.		63.5
I.B.B.P. °F.		94
Per cent at 221° F.		37
Per cent at 284° F.		67
Per cent at 392° F.		95
Per cent over		°F.
10		152
50		246
90		356
Endpoint		419
Octane No. 46		

Hydrogen Sulfide as Affecting Working Conditions and Corrosion

I would like to know what the permissible percentage of hydrogen sulfide in natural gas is safe for working conditions in natural gasoline plants and natural gas pipe lines and from corrosion standpoint.—H. K. O.

The quantity of hydrogen sulfide in natural gas that may be allowable is to a large degree controlled by law under regulations imposed by states and cities. The authorities have in many instances agreed that the maximum hydrogen sulfide content of gas should not exceed 30 grams per 100 cubic feet, which is the equivalent of approximately 0.05 per cent by volume. However, the danger line or quantity that may be breathed by man, for short periods of time, is only 0.02 per cent. It is important to consider this where the working conditions are such that the gas may sometimes be breathed by the workmen.

The small quantities mentioned are not considered to be seriously corrosive to the ordinary metals. Hydrogen sulfide corrosion is accelerated in the presence of water and air, water assisting more rapidly than air, the reaction forming sulfuric acid which is the active agent attacking the metal. If moisture and air are eliminated the corrosion does not take place under ordinary temperature conditions.

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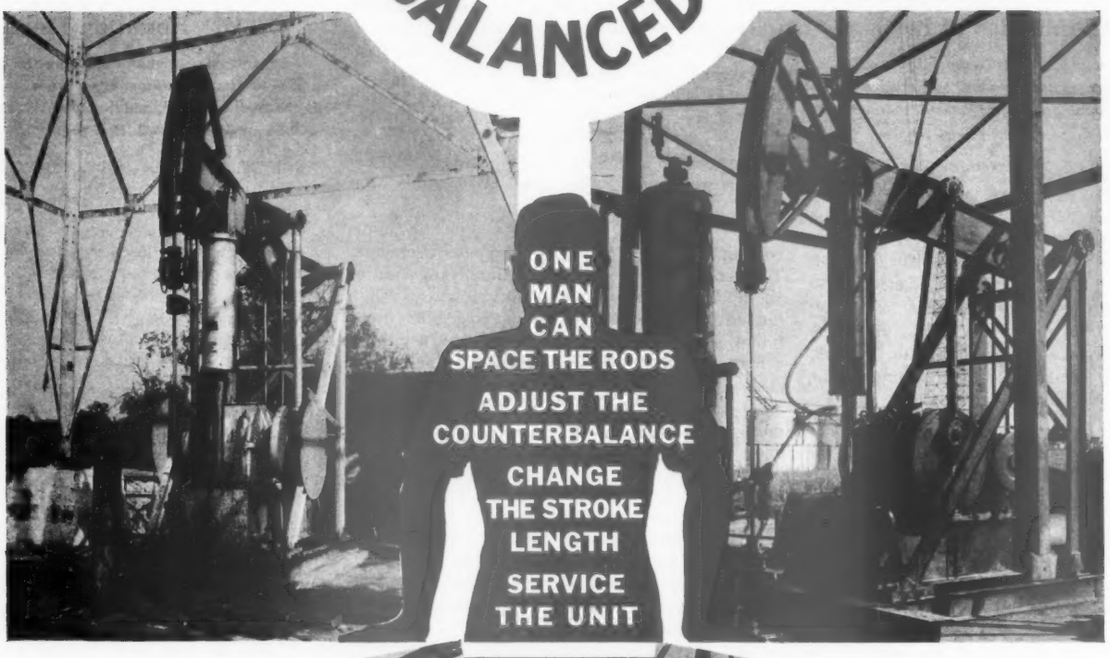

A FEW
REED AIR BALANCED PUMPING UNITS
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APPLICATION OF POWER AND LESS DOWN TIME

P. O. BOX 2119 **REED ROLLER BIT CO.** HOUSTON, TEXAS

THE NEW PUMPING UNIT CATALOG IS NOW AVAILABLE

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—Opening of a Bartlesville sand pool northeast of Bristow in Creek County was indicated by showings of oil and gas in Midco Oil Corp. No. 1 Leverett, Section 7-16-10. Work was started at an interesting wildcat in Section 23-8n-2w, north of the Noble pool on the Nemaha ridge in Cleveland County. Two other wildcats in the Noble district were nearing expected pay horizons.

KANSAS—Producing areas were opened in Section 35-15-14w, 1½ miles west of the Trapp field in Russell County, and in Section 36-16-14w, 7 miles northwest of Hoisington in Barton County. The Silica field was extended one-half mile northeast in Rice County and a one-half mile southwest extension of the Habiger pool in that county was indicated. The Cunningham pool was extended one-half mile southwest in Pratt County, and limits of the South Trapp pool in Barton County were extended one-fourth mile northward.

ILLINOIS—A very good showing of oil in a Bond County wildcat is the first sign of commercial production in that county. Sohio Pipe Line Co. (Owensboro Corp.) has reduced per well allowables in flush pools in Fayette, Clinton, Marion and Wayne counties, because of lack of facilities to handle all the oil offered.

TEXAS—In Southwest Texas the McCampbell pool in San Patricio County and the La Rosa pool in Refugio County were given substantial extensions. The big Goldsmith pool in Ector County in West Texas was given a half-mile extension by a 1,192-bbl. well and the Emma pool in Andrews County was extended a like distance. A well good for 200 bbls. an hour was completed in Young County, 4 miles southwest of Graham, by Dean Brothers and others, and a 1,000-bbl. wildcat in Leon County was reported.

LA-ARK-TEX—The Magnolia pool in Columbia County, Arkansas, was given new life when a thick body of saturated lime was found in a southeast outpost in Section 14-17-20. The well was being tested. A 1,700-bbl. well was the best of the Schuler field crop in the past week. The Lisbon, Louisiana, field was extended.

CALIFORNIA—A pool was opened in the San Fernando Valley area of the Los Angeles Basin by Tide Water Associated Oil Co. The discovery well was good for 1,050 bbls. per day at 5,263 feet.

KENTUCKY—A McClosky sand pool is opened in the Spottsville district in Henderson County west of the Birk City pool. Late report fixes the estimated production of the well at 800 bbls. per day natural flow.

MICHIGAN—Sixteen new oil wells including a 2,500-bbl. well and a 2,000-bbl. well in the Freeman pool in Clare County was Michigan's record of the week.

ROCKY MOUNTAIN AREA—Ohio Oil Co. No. 11 Lamb in the Lance Creek, Wyoming, field was good for 1,680 bbls. initially from Leo sand topped at 5,461 feet. A new depth record for Colorado was made in a test drilling at 9,083 feet.

Completions in All Fields

(Week Ending October 29, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa., and W. Va.	30	13	2	45	2,997	3,879
Ohio	2	14	6	22	814	1,000
Indiana	0	0	0	0	101	88
Kentucky	6	1	1	8	743	557
Illinois	69	1	14	84	1,470	219
Michigan	16	1	11	28	754	661
Kansas	30	2	2	34	1,350	2,188
Oklahoma	24	2	9	35	1,438	2,260
Texas:						
North Central Texas	38	1	25	64	2,624	2,355
West Texas	35	0	6	41	1,639	2,249
Texas Panhandle	9	0	0	9	475	660
East Texas	13	0	0	13	1,546	1,980
East Central Texas	6	0	0	6	295	609
East Texas Border	3	1	1	5	117	286
Gulf Coast Texas	32	0	2	34	1,105	1,301
Southwest Texas	35	2	21	58	1,793	2,741
Total Texas	171	4	55	230	9,594	12,181
North Louisiana	5	3	6	14	537	547
Gulf Coast Louisiana	6	0	2	8	402	377
Total Louisiana	11	3	8	22	939	924
Arkansas	8	0	0	8	204	142
Montana	0	0	0	0	91	192
Wyoming	3	0	1	4	133	91
Colorado	0	0	0	0	10	17
New Mexico	5	0	1	6	466	605
Utah	0	0	0	0	2	3
California	17	0	3	20	1,078	1,262
Total United States	392	41	113	546	22,184	26,269
Total previous week	383	47	93	523		
Difference	9	6	20	23		

Outstanding Fields--Highlights

(Week Ending October 29, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	36	41	12	11,232	846	18,450
Wasson-Bennett	8	35	7	6,243	158	9,496
Ector County	5	62	11	11,802	1,335	42,542
Winkler County	5	12	4	3,896	1,719	35,798
Howard-Glasscock	7	23	3	2,070	1,019	14,697
East Texas	17	28	13	727	25,748	370,047
OKLAHOMA						
St. Louis	6	32	0	0	707	23,925
Oklahoma City	4	9	1	40	1,093	85,450
KANSAS						
Barton County	3	24	7	3,445	380	10,373
Stafford County	2	15	2	1,365	191	4,573
Rice County	3	14	4	1,910	1,232	29,899
Russell County	2	21	6	2,656	1,150	22,360
NEW MEXICO						
Lea County	11	85	5	772	1,899	97,510
LA-ARK-TEX						
Rodessa, La-Ark-Tex	6	10	3	650	1,038	70,825
Cotton Valley, La. (deep)	1	21	0	0	95	10,475
Schuler, Ark.	3	19	7	4,055	113	17,260
Jennings, La.	1	14	2	380	121	23,539
MICHIGAN						
Overisel	2	13	2	320	52	3,600
ILLINOIS						
Central Illinois	60	388	69	16,424	1,432	75,980
CALIFORNIA						
Wilmington	5	16	3	1,450	571	94,900
KENTUCKY						
Birk City	2	28	2	600	83	3,378

Illinois and Kentucky

By STAFF CORRESPONDENT

Illinois Flush Fields Receive Smaller Per Well Allowable

MATTOON, Ill., Oct. 31.—Pipe line companies, fairly gorged with oil, have found it necessary to cut down on the per-well allowable in some of the fields in the state. In the past week the new fields of Illinois produced an average of 75,980 bbls. per day, while the old fields stepped up their production to 13,450 bbls. making a total of 89,430 bbls. per day for the state.

The pipe lines serving the fields cannot handle this much crude. The lines into the fields are flooded with crude and there is no relief in sight until new lines have been built. Magnolia Pipe Line Co. will lay a 6-inch line from the Lake Centralia field to Sandoval in Clinton County where it will connect with the Illinois Pipe Line Co. trunk line.

The Owensboro Corp. has given the name of Sohio Pipe Line Co. to its gathering system in Illinois and has announced that effective today, October 31, it will take only 50 bbls. per well from its connections in the Lake Centralia field. It has been taking 75 bbls. per well. In the Centralia field it will take 25 bbls. per well per day, and in the Louden field in Fayette County it has cut its runs to from 50 bbls. per well to 40 bbls. per well per day, and from the Burnt Prairie pool in southern Wayne County it has cut runs from 100 bbls. per well per day to 75 bbls.

Illinois Fields

HIGHLIGHTS OF THE WEEK: Signs of commercial production in a Bond County wildcat, and a general reduction of the per-well runs in Louden, Centralia, Lake Centralia and Burnt Prairie (Wayne County), were the features of the week in the state. Magnolia Pipe Line Co. will lay 6-inch line from the Lake Centralia field to Sandoval in Clinton County.

Daily production of new pools was 75,980 bbls., and old pools, 13,450 bbls. Total 89,430 bbls.

Completed oil wells, 69; operations, including locations, rigs and drilling wells, 520.

A good showing of oil in a Bond County wildcat, Huppard and others test on the Dresser farm in Section 21-6n-4w, is attracting much attention. It is the first of the wildcats drilled in the county in the past 20 months that has shown signs of production.

The Texas Co. paid $97,000 to eight individual owners for their one-acre Antioch school house lease in the Lake Centralia field. The owners were Leland Boyd, W. D. Frost, Nash Redwine, Paxton Gray, Dallas Hawkins, Joe Blalock, J. Manly and H. Vickers. They had drilled three oil wells on the plot and the Texas Co. has completed four offsets, the seven wells taking up less than two acres.

The Texas Co. is losing no time in developing its immense property in the Lake Centralia area. The company made 35 locations in that field in the past week, bringing its operations there to 81 including locations, rigs and drilling.

Completed Wells

Following are the completions of the week, with sand records and initial production. The production record represents 24 hours output unless otherwise noted.

In Clinton County, Shell Petroleum Corp. No. 1 Ellerman, N half NW SW NE Section 1-1n-1w, Benoist sand at 1,328-43 feet, shot with 10 quarts, 102 bbls.

W. C. McBride, Inc. No. 1 Terry, NW NW NE Section 24-1n-1w, Benoist sand at 1,375-85 feet, shot with 20 quarts, pumped 16 bbls. Newton & Ward No. 5 Frank Grass, NE SE SW Section 5-1n-3w, Cypress sand at 980-98 feet, shot with 30 quarts, pumped 65 bbls. Farrelly and others No. 1 Berginan, NW SW NW Section 30-1n-3w, Bethel sand at 1,093-1,110 feet, small showing at 1,330-33 feet, total depth at 1,403 feet, dry and abandoned. Martin and others No. 1 Rensing, SW SE NE Section 35-1n-5w, Cypress sand topped at 820 feet, contained water, total depth 1,290 feet, a hole full of water, abandoned.

Adams Oil & Gas Co. No. 1 Keister B, SW SE NE Section 35-2n-1w, Benoist at 1,352-72 feet, shot with 10 quarts, produced 50 bbls. in 16 hours. Adams Oil & Gas Co. No. 2 J. Keister B, SE SE NE Section 35-32n-1w, Benoist sand at 1,354-73 feet, produced 35 bbls. in 16 hours.

In Wabash County, J. D. Toomey Estate No. 19 Courter, NE cor. SW SW NW Section 3-1n-12w of first meridian, Jordan sand at 1,537 feet, shot with 20 quarts at 1,540-60 feet, Biehl sand at 1,482-1,512 feet, dry and abandoned at 1,560 feet.

In Lawrence County, E. E. Forman No. 1 Thompson, SW SW NW Section 22-2n-12w of first meridian, total depth 1,247 feet, a hole full of water, abandoned.

In Madison County, Penna Illinois Oil Co. No. 1 Keller, NW NW NW Section 18-4n-8w, reported abandoned at 400 feet.

In Lawrence County, Herbst No. 3 Houghton, C NW SE Section 12-4n-11w of first meridian, Buchanan sand at 1,066-70 feet, but gas sand at 812-30 feet, completed as a 12,000,000-foot gasser.

In Franklin County, Eason and others No. 1 Orient, NE SW SW Section 36-6s-2e, St. Louis lime at 2,970 feet, dry and abandoned at 3,197 feet.

In Jefferson County, Nollem and Benoist No. 1 Jefferson Liquidating Co., SE SW SE Section 24-4s-2e, Benoist sand at 2,786 feet, show of oil at 3,019-49 feet, acidized with 5,000 gallons, dry and abandoned, total depth 3,064 feet.

In Jefferson County, Carter Oil Co. No. 2 Earl Cunningham, SE NW SW Section 3-1s-2e, Bethel pay at

(Continued on Page 79)

Outside Search for McClosky Pay Success in Henderson

OWENSBORO, Ky., Oct. 31.—The search for McClosky sand production outside of the Birk City pool continues and in the past week was successful in the Spottsville district in Henderson County, but failed in the Utica district in Daviess County. The Spottsville test was one of the best wells yet found in the McClosky pay. It is Magnolia Petroleum Co. No. 1 Sam L. Green. It started at 30 bbls. per hour after drilling into McClosky saturation at a depth of 2,176 feet. It was not drilled through the pay and its initial output from the top of the "sand" gave promise of much larger production when it had been drilled to completion depth. Some observers estimate the well will produce as high as 1,000 bbls. per day when completed. Operations were suspended until storage facilities could be provided and orders received from the division office at Mattoon, Ill.

The well is about 12 miles west of the Green River on the banks of which the Birk City pool lies. It had been shot in the Cunningham sand but the Magnolia officials gave orders to make a McClosky test. It opens a new pool.

The McClosky failure was in Daviess County in the Utica district where L. C. Young drilled through the lime and found nothing. The depth record was not available.

In the Birk City field there were no completions in the past week on the Daviess County side and only two new operations. On the Henderson County side, Carter Oil Co. No. 2 Ollie Benham was good for 400 bbls. per day from McClosky pay, total depth of the hole 1,808 feet. The Aetna Oil Service Co. No. 3 C. A. Dempwolf started at an estimated 200 bbls. per day at a total depth of 1,890 feet. It will be acidized. Lincoln Petroleum Co. No. 1 Arthur Pirtle was drilled to 2,000 feet and was dry all the way. It is several miles west and north of the Birk City field. The well will be deepened 200 feet in an effort to get a producer in the McClosky limestone, which has yielded about 80 wells in Henderson and Daviess counties during the last few months.

Completions in other fields, and new operations in all districts are set forth below:

In Butler County, Silver City district: J. C. Miller, trustee, No. 4 Martha Hawes, moving in.

In Daviess County, Birk City district: W. E. Hupp and Snowden & McSweeney No. 8 Mrs. L. Taylor, a location; Western Kentucky Petroleum Corp. No. 1 Dr. W. L. Tyler set surface pipe.

In Hancock County, Easton district: Ray Cooper and others No. 8 Mrs. Jane Lane, 10-bbl. well from Jett sand at 248-63 feet, total depth 266 feet.

In Henderson County, Birk City district: Carter Oil Co. No. 3 Ollie Benham, location; Aetna Oil Service Corp. No. 4 C. A. Dempewolf Estate, location; Kentucky Natural Gas Co. and Sun Oil Co. No. 2 Mrs. O. M. Duncan, cored 7 feet of McClosky, will clean out and acidize; Paul Turner and others No. 1 D. Fisher, rigging up; Carter Oil Co. No. 3 L. M. Mauzy, spudding in; Kentucky Natural Gas Co. No. 1 Mrs. Fannie Newman, location. Niagara district: Kentucky Natural Gas Co. No. 3 H. H. Farmer, location; Kentucky Natural Gas Co. No. 1 O. W. Overfield Estate, 40-bbl. well in Niagara sand, total depth 721 feet. Cairo district: Phillips Petroleum Co. No. 1 F. P. Royster, coring McClosky at 2,580 feet.

In Ohio County, Friendship Church district: Charles Marsh and others No. 6 John Bellamy, started at 5 bbls. from Jett sand. Livermore district: Ohio Oil Co. No. 3 Fannie Foley, spudding in. Oklahoma district: Lewis & Lang No. 3 Gus Russelburg, 10-bbl. well in Jett sand.

In Union County, Chalybeate Spring district: Kentucky Natural Gas Co. and Sun Oil Co. No. 1 Matilda Mills, spudding in.

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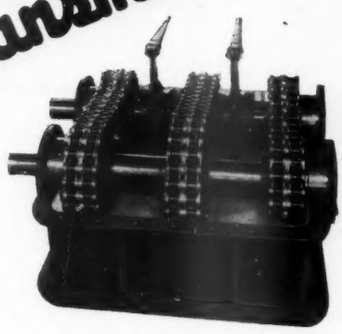

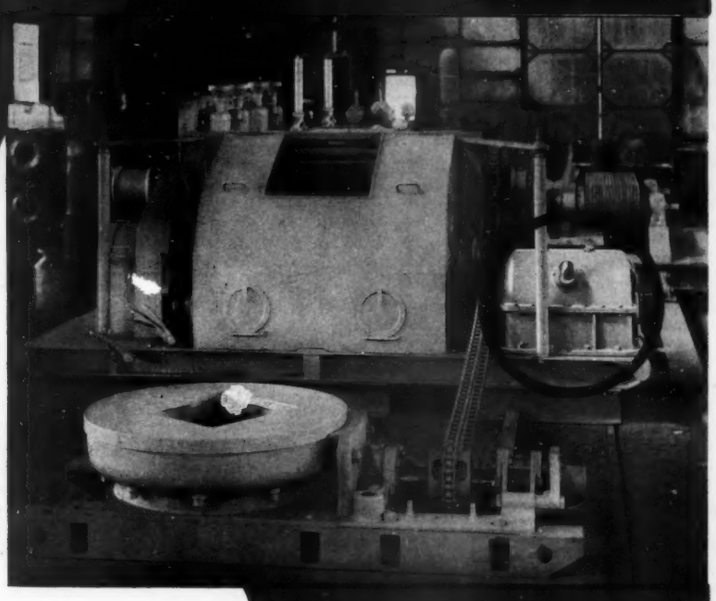

The conventional mechanical rotary drilling rig, using an ordinary 3 or 4 speed draw works, may now be modernized at comparatively small cost.

By adapting the Gumbo Buster Rotary Drive Transmission to commonly used types of draw works, compounded internal combustion engines may be operated at the most economical speeds for efficient slush pump operation, without reference to rotary table speed requirements—which are supplied (without varying the speed of the engines) through the transmission.

This provides operating flexibility which leads to lower fuel costs, longer engine life, better pump performance, and more service from drilling bits.

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AND
BRANCH STORES

Southwest Texas District

By
F. L. SINGLETON

Important Field Extensions at McCampbell and La Rosa

CORPUS CHRISTI, Tex., Oct. 31.—A revival of drilling that may extend into the town of Aransas Pass, San Patricio, was forecast with the completion of Frank Grote and others No. 1 Gilbert R. Carlock, an important mile south extension to the McCampbell field in Aransas and San Patricio counties. Casing was perforated at 7,124-33 feet, and the well flowed 120 bbls. daily through a one-eighth inch choke with tubing pressure 450 pounds and casing pressure 1,050 pounds. Sand showing gas was cored at 7,097-99 feet, oil sand at 7,099-7,111 feet, sand with a small shale streak at 7,117-37 feet, and oil sand at 7,137-38 feet. On the southwestern edge of the field and 4,150 feet southwest of the extension producer, L. L. Smith and others have started drilling No. 1 Barfoot, in Lot 14, Block 2, of the T. P. McCampbell subdivision.

At a meeting of city officials in Aransas Pass, it was agreed to allow drilling on each city block within the city limits. The ordinance requires a permit fee of $100 for each well and requires the operator to post a bond of $5,000 on each well to indemnify property owners in case of accident. The extension producer is located on the line between Lots 4 and 5 in Section 72 of the McCampbell subdivision, about a quarter mile west of the city limits. The federal census of 1930 gave Aransas Pass a population of 2,482.

Northeast of the LaRosa field, Refugio County, Rutherford Oil Corp. No. 1 Schrimer was flowing into the burning pits, making an estimated 15 bbls. of wash water and oil per hour under a tubing pressure of 500 pounds and casing pressure 600 pounds. The completion of this well gives a 3,600-foot extension to the field as well as a new producing horizon. The well was tested earlier in the week through perforated casing at 6,323-26 feet, but due to a faulty cement job it tested salt water. A successful squeeze job was then made and the well is rated as one of the best in the field. North of production approximately 1 mile, Darby Petroleum Co. No. 1 Rooke was coring shale below 6,020 feet in search of the deeper sand, having cored salt water in both the 5,300- and 5,800-foot horizons.

Five miles northeast of the LaRosa field, J. W. Heard and others No. 1 Hudson, Estaben Lopez Survey, was abandoned at 7,020 feet. Several showings were logged, but drill-stem testing resulted in recovery of salt water.

Two New Pays

Two new sands were proven productive on the west side of the South Alice field, Jim Wells County. R. B. Bryant No. 2 Rattan, Lot 13, Collins Farm lots, perforated casing at 5,031-38 feet, and flowed 200 bbls. per day through a three-sixteenth inch choke. This sand has been found in numerous tests, but has shown distillate or salt water on production tests. The well was completed in the new horizon after it failed to make a producer in the discovery zone at 5,298-5,303 feet. In Lot 17, Collins Farm Lots subdivision, Southern Mineral Corp. opened production from a deeper sand with the completion of No. 1 Stillwell. Casing was perforated at 5,441-51 feet, and the well was cleaning out at the close of the week, making wash water and oil through a five-sixteenths inch choke.

Locations for two more wildcats were made in Jim Wells County. In the extreme southern part of the county, adjoining the townsite of LaGloria, Magnolia Petroleum Co. staked location for No. 1 Samuel Moun in the Los Olmost y Loma Bianca grant, in the center of Block 25, Section 10, of the subdivision lands adjoining the townsite of LaGloria. This well is almost due west of Shell Petroleum Corp. No. 1 Von Blucher in the Lucinda Vest Survey which is bottomed in sand showing oil at 7,332 feet and casing has been cemented. The casing was reported to have been cemented for protection and the hole is expected to be carried deeper. Several sands have been logged, and it is generally believed that a producer of some kind will be made. The other location was made by La Salle Viejo Oil Co. for No. 1 Shaeffer in the Martin Christian Survey No. 11. Derrick material is being moved to the location.

A Water-White Distillate

In the same county, 1,126 feet east of the Banderia discovery well, Magnolia Petroleum Co. No. 1 Romano V. De Garcia, is bottomed at 8,302 feet, and 7-inch casing was cemented at 6,528 feet, preparatory to completing as a distillate well in the discovery horizon at approximately 6,400 feet. In the East Premont field and located 1,320 feet west of production, Magnolia Petroleum Co. No. 10 Seeligson was completed as a distillate producer. Having failed to produce in the discovery horizon below 6,500 feet, the hole was plugged back to 6,141 feet, and the well was completed through perforated casing at 6,132-38 feet for an initial production of 4½ bbls. of water-white distillate per hour through a seven sixty-fourths inch choke. Tubing pressure was 2,450 pounds and casing pressure 2,500 pounds.

Sun Oil Co. continues to drill deeper in two of its outpost wells in the Sun field, Starr County. No. 1 Olivarez, northwest of the discovery well in Section 239, is bottomed at 5,235 feet, and a protection string of casing is being cemented on bottom preparatory to drilling deeper. A section of sand having a good oil odor was cored at intervals from 5,135 to 5,203 feet, but three drill-stem tests showed salt water with a small amount of oil. Several possible sands have been cored above and below the discovery horizon of 4,800 feet, and the well is assured of being an oil producer. To the southwest about a mile, No. 1 Speer, Section 274, is coring in sandy shale below 5,664 feet, and no oil indications have been reported. A 10-minute drill-stem test at 5,548-67 feet, developed only salt water. This well is running much lower than the discovery well and looms as a dry hole.

In the Balcones fault line district production tests were scheduled to be made on several prospective pool openers. In Guadalupe County, A. E. King and others No. 1-A Rosenbrock, Vincente Duran Survey No. 4, which was drilled to the Buda lime at 1,882 feet, perforated casing at intervals from 630 to 980 feet, and was bailed dry. The operators then knocked the plug out of the bottom of the casing and let the well stand over night and the hole filled 800 feet with mud and oil. A small swage was put on the casing, and a small valve on top, and the well is flowing a little black oil. It is the opinion of the operators that the oil is coming from the Austin chalk.

In Kimble County preparations were being made to test two wells in the Junction area where one small producer has been completed in the Ellenburger lime. Plateau Oil Co. No. 1 Bolt, Sarah Jones Survey No. 42, is reported to have cored sandy lime with an oil showing at 1,414-36 feet, and 7-inch casing was cemented at 1,415 feet. The hole was treated with 500 gallons of acid and the well is being rigged to pump. The same company's No. 1 Hunger, J. Dufner Survey No. 43, is bottomed in lime at 1,837 feet and 5½-inch casing was cemented at 1,765 feet.

In Bastrop County, Paul Texas and others No. 1 J. T. Grizzard, an Edwards lime test, is waiting for cement to harden after 4¾-inch casing was cemented at 7,152 feet. Several small showings are reported to have been logged.

A renewal of drilling activity in the Ezzell field, McMullen County, continues to expand the productive area. Edwin M. Jones No. 40 Ezzell, 1 mile southwest of production in Section 36, perforated casing in oil sand at 1,526-34 feet, and was completed for an estimated 150 bbls. on the pump. In Section 35 Harry Ezzell No. 24 fee cored oil sand at 1,535-51 feet, and the well is being completed after coring to a total depth of 1,565 feet.

Interest in the Rio Grande Valley area was centered on R. E. Harding No. 1 E. M. Card, a wildcat east of the McAllen city limits in Hidalgo County. The hole is bottomed at 7,506 feet and 7-inch casing, cemented at 7,475 feet, is expected to be perforated in several sands reported logged below 6,900 feet. Phillips Petroleum Co. is reported to have purchased several thousand acres near the well.

SOUTHWEST TEXAS COMPLETIONS

(24-hour production)

Caldwell County

Dale field: Ralph Ogden No. 6 Barber, 2,698 feet, abandoned. Salt Flat field: J. C. Bertrand No. 3 Hanson, 2,704½ feet, 36 bbls. oil, 36 bbls. sulfur water pumping.

Calhoun-Victoria Counties

Heyser field: Gulf Oil Corp. No. 5 Bonner, sand 5,482-90 feet, 151 bbls., seven sixty-fourths inch choke. Gulf Oil Corp. No. 1 L. D. Williams, sand 5,579-85 feet, 169 bbls., one-eighth inch choke. Humble Oil & Refining Co. No. 6 Vandenberge, perforated casing 5,417-80 feet, 220 bbls., three-sixteenths inch choke.

Duval County

Benavides field: Argo Oil Corp. No. 4 Bolte, 5,444 feet, 65 bbls., three thirty-seconds inch choke. Casa Blanca field: Creighton & Moore No. 3-A Martin, sand 1,176-82 feet, 25 bbls., pumping. Creighton & Moore No. 4-A Martin, 1,264 feet, abandoned. Magnolia Petroleum Co. No. 1 Duval County Ranch Co., sand 1,156-76 feet, dry gas well. Eagle Hill field: Magnolia Petroleum Co. No. 10 Duval County Ranch Co., sand 1,446-62 feet, 37 bbls., jetting. Fitzsimmons field: Collins & Porter No. 2 Fitzsimmons, perforated casing 4,332-36 feet, 127 bbls., one-quarter inch choke. H. J. Porter No. 6-A Fitzsimmons, perforated casing 4,283-99 feet, 132 bbls., five thirty-seconds inch choke. Sun Oil Co. No. 3 Brueggeman, perforated casing 4,280-87½ feet, 107 bbls., nine sixty-fourths inch choke. Hoffman field: Cox, Hamon and others No. 50 Cuellar, sand 2,560-82 feet, 150 bbls., one-half inch choke. Cox, Hamon and others No. 12 Cuellar, sand 2,549-77 feet, 160 bbls., one-half inch choke. Cox, Hamon and others No. 3 Hoffman, 2,764 feet, 35 bbls., jetting. Magnolia Petroleum Co. No. 16 Weil, 2,796 feet, 9 bbls., jetting. Tesoro field: Arkansas Fuel Oil Co. No. 4 Cuellar Brothers, perforated casing 5,092-5,108 feet. salt water, abandoned.

Guadalupe County

Darst Creek field: Julia Oil Co. No. 1-A Forshage, 2,682 feet, abandoned. Nancy Lee Oil Co. No. 1 Wilson, 2,618 feet, 35 bbls., flowing by heads. Texas Co. No. 5 Roamell, 2,602 feet, 110 bbls. oil, 151 bbls. sulfur water, pumping. United North & South Development Co. No. 11 Dix, sand 2,546 feet, 172 bbls. oil, 182 bbls. water, pumping.

McMullen County

Ezzell field: Harry Ezzell No. 23 Ezzell, perforated casing 1,530-40½ feet, 575 bbls. pumping and flowing. E. M. Jones No. 38 Ezzell, perforated casing 1,541-50 feet, 331 bbls., pumping. E. M. Jones No. 39 Ezzell, 1,795 feet, abandoned. Munson field: Bishop Oil Co. No. 3-B Nueces Land & Livestock Co., 1,199 feet, abandoned.

Nueces County

Luby field: Ohio Oil Co. No. 5 Shaeffer, perforated casing 4,335-37 feet, 111 bbls., one-eighth inch choke. Seaboard Oil Co. No. 39 Luby, perforated casing 5,171-74 feet, 139 bbls., one-eighth inch choke. Clara Driscoll

(Continued on Page 91)

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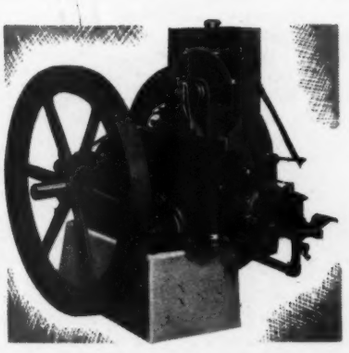

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CONTINENTAL

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Acreage Around League City Pool Sells for Large Amounts

HOUSTON, Tex., Oct. 31.—Developments in the newly opened League City field, Galveston County, continued to hold the attention of operators along the Gulf Coast district as details of a trade between the Phillips Petroleum Co. and the Midwest Royalty Co., which discovered the field, were being completed, It is reported that the deal involves the purchase of the discovery well and all of the company's block of approximately 3,300 acres, for which Phillips will pay more than $2,000,000 in cash and oil. It is reported that Phillips Petroleum Co. is building roadway to the O. H. Patton lease, offsetting the discovery well to the north formerly held by the Midwest. Phillips Petroleum Co. has been the heaviest buyer in the area, having purchased several large tracts northeast and northwest of the discovery well from J. H. Ross and Maco Stewart, both of which call for early drilling obligation. On the Maco Stewart tract to the northwest, Phillips is obligated to start a well within the next 60 days and will drill five more wells on the same tract, with each well to be started every 60 days after the first well is completed.

North of the well, approximately 2 miles, H. C. Cockburn is preparing to spud No. 1 O. H. Haardt in the Stephen Austin Survey. Cockburn is reported to have paid $100,000 in cash and a one twenty-fourth overriding royalty for this 500-acre tract. Due west of the discovery well approximately a half mile, George Echols is scheduled to start drilling operation on No. 1 Maco Stewart and others, located in Lot 3, J. F. Perry and E. M. Austin Survey. The same operator has also made location for No. 1 Maco Stewart about the same distance due east of the discovery well in Lots 10, 11 and 12 in the same survey. Most of the buying is being done by independent operators and several pending trades call for drilling obligations.

Initial Record

The discovery well, No. 1 Louis Lobit, completed Friday, October 21, made an excellent flow on a later 24-hour potential test, as it produced 301 bbls. of 42.3 gravity oil through a nine sixty-fourths inch choke, with tubing pressure 1,750 pounds and casing pressure 1,950 pounds. The well is producing from the lower Frio formation through perforated casing at 9,092-9,105 feet.

In the Rosslyn area, east of the Fairbanks field, Harris County, Sinclair Prairie Oil Co. was preparing to run casing for a production test of No. 1 W. W. Goodykoontz, a north offset to Stanolind Oil & Gas Co. No. 1 Goodykoontz. Sandy shale having a gas odor was cored at 6,686-94 feet and at 6,783-91 feet. Sand showing oil was cored at 6,846-47 feet, 6,850-51 feet, and sand and shale showing oil at 6,954-62 feet. Salt water sand was topped at 6,970 feet, and cored to 6,979 feet, the total depth. This is approximately the same depth from which the Stanolind well produces. Sand conditions in this area are erratic and development is expected to be slow. Approximately 1½ miles northwest of Union Producing Co. No. 1 Goodykoontz, a 7,200-foot distillate producer, Housh & Thompson have started drilling operations on No. 1 G. L. Baines in the Wiley S. Powell Survey. Much information as to the structural condition of the area will be learned from the log of this test.

Southwest of the Eureka field, Harris County, little hope is held for Tide Water Associated Oil Co. No. 1 H. H. Ford being productive. This well, about a half mile south of production in the John Reinerman Survey, was drilled to 8,113 feet in the hope of picking up the deep sand recently opened by Jack Frazier No. 1 Lackner to the north. The lower sand is reported to have carried salt water, and 5½-inch casing was cemented at 8,100 feet. The casing was perforated in the discovery horizon at 7,762-67 feet, and the well has been shut down for orders after it swabbed salt water. Only a small section of saturated sand was cored and it is doubtful if the well can be completed as a producer.

Locations for two more wildcats were made by Jack Frazier in Harris County. In the Highlands area, derrick is up for No. 1 Joe Hornberger, located 2,747 feet east of the west line and 330 feet south of the north line of the B. N. Sessums Survey. To the northwest and located in the Talcot Patching Survey, No. 1 Carter Investment Co. is 5,780 feet east of the west line and 3,120 feet north of the south line of the survey. Both tests are being supported by several companies.

In Austin and Wharton counties, Crown Central Petroleum Corp. is scheduled to start drilling operations on two wildcats. One and a half-mile northwest of the town of Louise in Wharton County, No. 1 Ruby Babcock is located in the Samuel Middleton Survey. It is a 5,500-foot contract, which was let to H. J. Porter Drilling Co. Southwest of Bellville in the Renke Stolz Survey, Austin County, No. 1 C. C. Huehner is scheduled to be started in the near future.

South of Francitas and in the John D. Newell Survey No. 61, Texas Co. was drilling plug preparatory to testing No. 1 J. F. Weed, bottomed at 7,710 feet with 7-inch casing cemented at 7,707 feet. Detailed information on this well has been withheld by the company, but it is reported the prospective sands were logged below 7,000 feet and all carried gas or distillate odors.

Material is being moved to Trinity County for a wildcat to be drilled on a block of approximately 10,000 acres, which is reported to have been worked extensively with various types of geophysical instruments. The well will be drilled by Mark T. Wilson, Roy M. Sundby and others and the location is in the James Walker Survey.

Another well in the Cedar Point field, Galveston Bay, has cored the sand and was scheduled to be completed. Standard Oil Co. of Texas and others No. 5-118 State cored gas sand at 5,938-40 feet, oil sand at 5,958-6,000 feet, total depth, and casing was being cemented. The Discorbis was topped at 5,120 feet, Heterostegina at 5,390 feet, Round Marginulina at 5,600 feet and the Flat Marginulina at 5,660 feet.

South of Anahuac, Chambers County, Salt Dome Oil Corp. No. 1 Ogden, the discovery well of a distillate field, flowed 16.56 bbls. of fluid in 24 hours ending at 7 a.m. October 24. Ninety per cent of the fluid was salt water and the balance distillate. The test was made through a nine sixty-fourths inch choke and the well made 1,379,000 feet of sweet gas, with tubing pressure 950 pounds. Location for an interesting test was made in the Cotton Lake area, Chambers County, by the Humble Oil & Refining Co. for No. 3 Flewellen Howard and others. The well is a half mile south of the North Cotton Lake field and about a mile north of the south Cotton Lake field.

North of Orange, Orange County, Sun Oil Co. No. 1 Lutcher Moore Lumber Co., B. Johnson Survey, cored salt water sand to 7,867 feet, at which depth the hole was found to be 7 degrees off vertical. An electrical coring survey was made, and eight side-wall cores were cut at 6,325-40 feet, and one is reported to have shown oil at 6,325 feet. The hole has been plugged back to 7,000 feet and cement has been drilled out to 7,165 feet.

Another important extension to the deep pay in the Segno field, Polk County, was made by the completion of J. K. Dorrance No. 4-A Wing, I.&G.N. Survey No. 14. The well is cleaning out, flowing 10 bbls. of wash water and oil per hour through a quarter-inch choke. The hole is bottomed at 8,332 feet, and the well is producing through perforated casing at 8,000-18 feet. This extends the deep sand about a half mile east. Gulf Oil Corp. No. 14 Wing was to be completed in the deep sand after 5-inch casing was cemented on bottom at 8,119 feet.

South Louisiana

Along the Louisiana coast and located in the Bancroft field, Beauregard Parish, Republic Production Co. was preparing to complete No. 2 Lutcher Moore Lumber Co., which will mark up a half mile northeast extension to the field. Sand showing oil was topped at 7,260 feet and cored to a total depth of 7,297 feet. Seven-inch casing was cemented on bottom and the casing is being perforated. Gas sand was cored at 7,097-7,106 feet. Location is in Section 16-6s-13w. The producing horizon is the upper Cockfield formation, the same as the discovery well which indicates a fairly uniform sand condition. The same company's No. 2 Columbia Land & Timber Co., Section 16-6s-13w, is drilling in shale below 7,080 feet and should pick up the pay within the next two days.

On the Chalkley prospect, Cameron Parish, preparations were being made to retest No. 2 Katherine Hanzen after the well went dead after showing for a gas well through perforated casing at 8,562-68 feet. The well is located in Section 9-12s-6w and is being completed for a gas well which will furnish fuel for the drilling of No. 1 Desire Miller, a new wildcat, 2 miles north in Section 32-11s-6w.

In St. Bernard Parish, location for an interesting wildcat was announced by Vendome Petroleum Corp. for No. 1 Kenilworth Plantation located 1,100 feet north of from center of Bayou Terre Aux Boueufs in Section 59-13s-14e.

COMPLETIONS ON TEXAS GULF COAST

(24-hour production)

Brazoria County

Hastings field. Humble Oil & Refining Co. No. 11 Schindler, sand 6,070-81 feet, 567 bbls., one-quarter inch choke. Stanolind Oil & Gas Co. No. 12 Grote, perforated casing 5,157-73 feet, 386 bbls., one-quarter inch choke. Old Ocean field: Harrison & Abercrombie No. 1 Fesler & Larsen, 10,070 feet, 325 bbls., various chokes. West Columbia field: Frost & Dunnam No. 2 Masterson, 5,332 feet, 565 bbls. one-quarter inch choke. Texas Co. No. 28 Abrams, sand 5,550-5,695 feet, 525 bbls., one-quarter inch choke.

Chambers County

Anahuac field: Humble Oil & Refining Co. No. 35 Middleton, 7,080 feet, 576 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 6-A B. Shaver, 7,130 feet, 216 bbls., one-quarter inch choke. Cotton Lake field: Humble Oil & Refining Co. No. 1-C Lawrence, 6,524 feet, 144 bbls., one-quarter inch choke.

Fort Bend County

Thompson field: Gulf Oil Corp. No. 29 F. I. Booth, sand 3,162-74 feet, 80 bbls., one-quarter inch choke.

Galveston County

Dickinson field: Atlantic Refining Co. No. 2 Potter, sand 8,093-8,108 feet, 687 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Fream, 8,090 feet, 720 bbls., one-quarter inch choke. Mid-States Oil Corp. No. 1 Kimberling-Wilkins, perforated casing 8,498-8,502 feet, 188 bbls., three-sixteenths inch choke. Hitchcock field: Maco Stewart No. 7 fee, sand 5,127-52 feet, 566 bbls., one-quarter inch choke. League City field: Midwest Royalty Corp. No. 1 Louis Lobit, perforated casing 9,092-9,105 feet, 301 bbls., nine sixty-fourths inch choke.

Harris County

Fairbanks field: Amerada-Stanolind Oil & Gas Co. No. 2 Dawson, perforated casing 6,836-44 feet, 429 bbls., one-quarter inch choke. Amerada-Stanolind Oil & Gas Co. No. 2 Day, perforated casing 6,850-54½ feet, 425 bbls., one-quarter inch choke. Amerada-Stanolind Oil & Gas Co. No. 3 Smith, perforated casing 6,840-50 feet, 562 bbls., one-quarter inch choke. Housh & Thompson No.

(Continued on Page 91)

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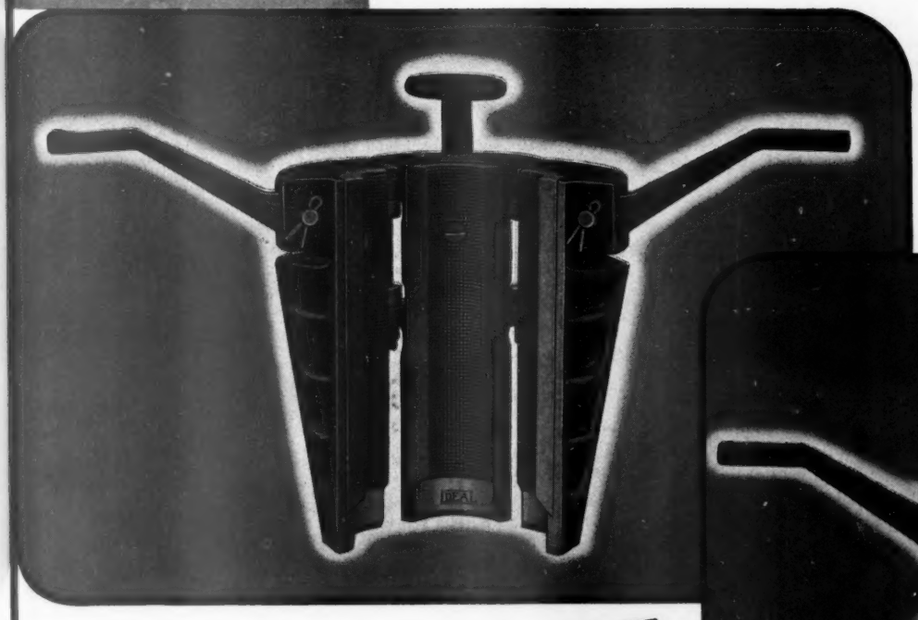

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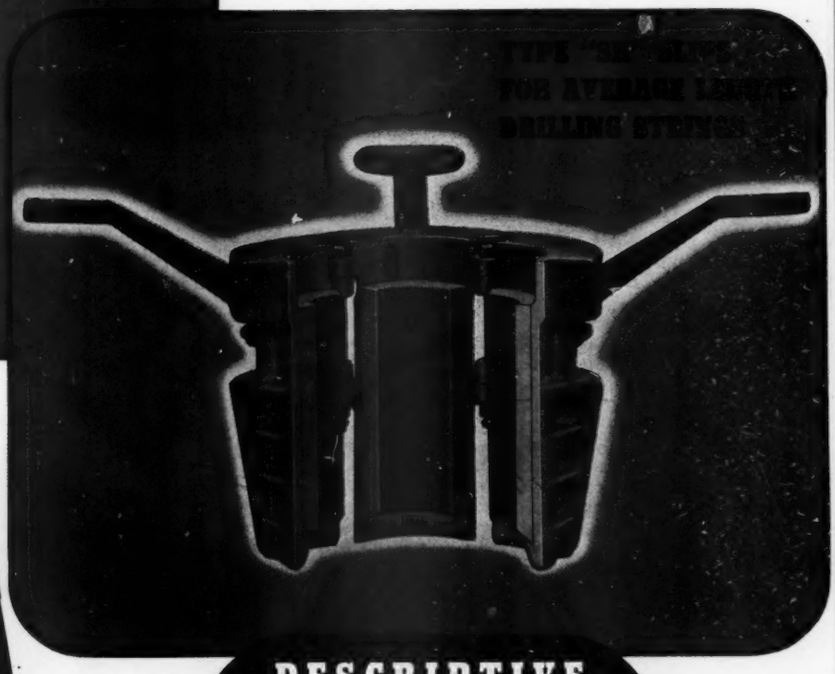

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DESCRIPTIVE
LITERATURE
UPON REQUEST

Eastern Field Report

By STAFF CORRESPONDENT

Add Oriskany Sand Gasser to Beaver County's Record

PITTSBURGH, Pa., Oct. 31.—Another Oriskany gas well was completed in Beaver County, Pennsylvania, when John T. Galey and others brought in the test on the Eliza Allen Heirs farm in South Beaver Township. Onondaga lime was topped at 4,566 feet, and Oriskany at 4,769½ feet. Total depth was 4,782 feet. The well gauged 3,250,000 feet a day, which was turned into the line for test.

This is the fifth gas well completed in the Oriskany sand in Beaver County since the pool was opened by John T. Galey on the Graham (Calvin) farm. From present reports, additional activity may be expected in the vicinity of the pool.

On Chestnut Ridge in Fayette County, Pennsylvania, Wasson & Co. topped the Tully lime at 6,282 feet in the test on the J. H. Sorg farm in North Union Township. With a surface elevation of 2,485, this places the Tully at subsea minus 3,797 feet. The discovery well .2 mile south and a little west had a surface elevation of 2,316 feet and topped the Tully at 6,009 feet or subsea minus 3,693 feet. The test on the Sorg farm appears 104 feet lower on structure than the initial gasser but well within the gas possibilities, as edgewater conditions appear lacking on this structure. The new test is drilling at 6,400 feet.

SOUTHEAST OHIO

In southeastern Ohio the second test of Kundtz-Hulse, Inc., and others on the Ora and Ada Booth farm, Section 18, Fallsbury Township, Licking County, was completed in Clinton sand, total depth 3,115 feet, and after shot swabbed 30 bbls. in 48 hours.

In Athens County, A. D. Townsend completed No. 5 Jacob Niggemeyer near Shade in Section 11, Lodi Township, in second Berea sand at 1,685 feet. It gauged 500,000 feet of gas a day. In Section 21, Dover Township, Kachelmacher Estate drilled No. 5 New York Coal Co. through the Berea sand and it was dry.

In Coshocton County, Mossholder & Rutledge completed a gas well on the Orville Hughes farm in Section 24, Perry Township, in Clinton sand at 2,987 feet, and gauged 998,000 feet a day. In Monroe Township, Coshocton County, S. J. Bell and others drilled a dry hole on the Ellsworth McKelvey farm, Section 10, through the Berea sand, total depth 800 feet.

In Knox County, S. Howard Rugg and others completed No. 3 Lettie Veatch, Section 1, Jackson Township, in the Berea sand at a total depth of 936 feet. It is a gas well gauging 85,000 feet a day.

In Licking County, Hoover Brothers completed a 3-bbl. well on the Robert Ridenour farm in Section 7, Mary Ann Township, in the Berea sand at 628 feet. In Section 12 of this township, C. R. Settles and others drilled a dry hole on the Daisy Wright farm through the Berea sand to 780 feet.

In Perry County, Ohio Fuel Gas Co. completed a test on the S. M. Jones farm, Section 20, Monroe Township, drilled in the Clinton sand to a total depth of 3,735 feet, and it has a gas well gauging 800,000 feet a day.

In Section 10, Jackson Township, Perry County, Kissling Drilling Co. completed a gas well on the Simpson Wright farm in the Berea sand at 920 feet, which gauged 50,000 feet a day, with no oil showing.

In Muskingum County, Wittmer Co. is drilling a test on the Howard H. Bowden No. 2 lease, Lot 8, Washington Township, and it is now in the lime at 3,300 feet.

SOUTHWEST PENNSYLVANIA

In Fayette County, Pennsylvania, Eberly and others brought in a fair gas well in the new shallow pool on the J. F. Coombs farm in Menallen Township. Big Injun was topped at 997 feet, with the gas pay at 1,103 feet and a gauge of 850,000 feet a day. The total depth was 1,167 feet. In this township, Nollem Oil & Gas Co. is drilling on the Thomas Bayles farm below 1,100 feet and rigging up on the Victor Piccalomini farm.

In Greene County, Equitable Gas Co. deepened No. 1 J. L. Iams in Washington Township to 3,440 feet. The Fifth sand was at 3,202-15 feet with 94,000 feet of gas at 3,213-15 feet.

In Washington County, R. M. Duden and others completed the test on the Antonio Provenzano farm in Buffalo Township at 2,600 feet. There was a small showing of gas in the Big Injun sand, about 1 bbl. a day of oil in the Fourth sand and 8 bbls. of water in Gordon sand.

In Hanover Township, Washington County, Braden and Herron drilled No. 3 W. N. Bell through Berea to 1,200 feet and there was only a small showing of oil in that formation.

PENNSYLVANIA GRADE FIELDS

Summary of Operations in September

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Bradford	*101	111	0	0	11	44
Allegany	†62	40	0	0	7	24
Middle district	12	21	1	0	2	14
Butler-Armstrong	4	14	0	0	1	12
Southwest Pennsylvania	10	11	4	4	5	29
Southeast Ohio	22	343	4	7	9	37
West Virginia	63	287	11	40	19	123
New York-Pennsylvania	6	0	2	4	9	14
Total September	280	827	22	55	63	297
Total August	302	1,130	32	58	82	316
Difference	22	303	10	3	19	19

*Includes 46 water intake wells.
†Includes 25 water intake wells.

Greene County

In Morris Township, Greene County, Furman Nuss and others are drilling on the C. W. Ewings farm below 560 feet. O. I. Dille and others started drilling on the Elmer D. Buckham farm in Richhill Township. In Center Township, Charles Mong and others completed deepening No. 3 J. L. Metz (Weir farm) at 3,146 feet or 33 feet in the Nineveh Thirty-Foot sand and shot it. It produced 165 bbls. the first day after shot. In this township, Carnegie Natural Gas Co. rigged up No. 3 J. H. Orndoff. J. B. Orndoff has drilled by three strings of tools in the No. 2 G. M. Scott and set 8¼-inch casing. The rig for the No. 3 Mattie I. Scott is being built.

George Miller, superintendent, for Joseph E. Fleming, Titusville, Pa.

In Richhill Township, Smith McCracken straightened out the hole in the Asa Hughes test and has reached 3,345 feet. The Fourth sand was at 3,305-13 feet with 352,000 feet of gas at 3,308 feet.

In Monongahela Township, Monongahela Oil & Gas Co. is drilling a second test on the Vance Heirs farm and had reached 97 feet. In Center Township, Equitable Gas Co. is deepening No. 1 H. W. Ewart at 3,100 feet. In Washington Township, this company has rigged up No. 3 T. J. Huffman.

Washington County

In South Franklin Township, Washington County, J. J. Foley and others started drilling on the Ira Baldwin farm.

In North Strabane Township, E. H. and J. B. Tague are drilling at 2,497 feet in No. 8 R. G. Lutton, with Gordon sand at 2,467-74 feet; Fourth sand 2,479 feet and a show of oil at 2,490 feet. In Chartiers Township, Cannonsburg Steel & Iron Co. is drilling on its own property below 384 feet. In Nottingham Township, Beedle, Clark and others are drilling at 2,240 feet in No. 2 Pittsburgh Coal Co.

On Chestnut Ridge, the L. J. Houze Convex Glass Co. reached 7,294 feet on the Paul Dunham farm in Springhill Township and shut down to cement on account of caving. It is definitely reported drilling in the Marcellus and is 579 feet below the base of the Tully lime. The Onondaga should be reached soon. Northward on this ridge, Peoples Natural Gas Co. continues to make fair time in the rotary test on the Piedmont Coal Co. land in South Union Township, and had reached 4,495 feet. New Penn Development Co., William E. Snee and others had reached 3,100 feet on the Indian Creek Coal Co. Johnson warrant.

WEST VIRGINIA

In Calhoun County, West Virginia, W. A. Bickerstaff completed No. 2 W. H. Freed Heirs in Sheridan district in Salt sand at 1,584 feet and it is good for 2 bbls. a day.

In Lincoln County, H. H. Dial cleaned out an old abandoned well, No. 1 Norma Chapman, and deepened it to 1,377 feet. The Big lime was at 1,250 feet with 2 bbls. of oil a day at 1,295 feet. It is in the Sheridan district.

In Ritchie County, R. C. Jackson completed the Charles Bickerstaff test in Grant district in the Big Injun sand at 2,128 feet. It is showing for 15 bbls. a day. In Murphy district, the King Knob Gas Co. completed the No. 11 Payton Tingler in the Injun sand at 1,897 feet and it is good for 5 bbls. a day.

In Roane County, the American Oil Development Co. completed the No. 6 I. F. Conley in Harper district at 1,597 feet with the Salt sand topped at 1,537 feet; 20 bbls. a day at 1,564-94 feet along with 1,000,000 feet of gas.

Gas Wells

In Cabell County, C. G. Peck and others completed a second test on their fee in Guyandotte district at 3,052 feet as a small gas well. The Big Injun sand was at 1,345-1,419 feet; Berea 1,923-35 feet; Brown shale 2,509-3,052 feet and a gauge of 37,320 feet a day.

(Continued on Page 91)

North and East Texas

By D. H. STORMONT

More Big Wells From 4,300-Foot Sand in Hull-Silk Pool

WICHITA FALLS, Tex., Oct. 31.—Three new oil wells in the Hull-Silk pool from the 4,300-foot level and important wildcats in Baylor, Wilbarger, and Montague counties, centered most of the attention in the North Texas area over the week.

Three new wells, making a total of six in the 4,300-foot level, were registered in the Hull-Silk pool. Chapman & McFarlin No. 1 Wilson, Block 26, A.T.N.C.L. Survey, east offset to the extension well which stretched the 4,300-foot pay a mile to the southeast, tested 150 bbls. of oil in three hours, or at the rate of about 1,200 bbls. per day. Helmerich & Payne, Inc., and Blackwell Oil & Gas Co. No. 2 Wilson, southeast corner of Block 25, tested 139 bbls. of oil in three hours. This well is a north offset to the Chaplin & McFarlin well. Sixth producer in the 4,300-foot level was Texas Co. No. 34-D, in Block 29, A.T.N.C.L. Survey. The test cored broken sand at 4,378-80½ feet, where electrical survey was run and casing was cemented for a test. Fourth new producer of the week, and from the original 3,800-foot K.M.A. pay section, was Reno Oil Co. No. 1 Wilson, in Block 4. The well is swabbing an estimated 40 to 50 bbls. daily from 3,758-95 feet, following acid treatment.

In the Canyon sand pool of southern Wichita County, Shappell Oil Co. No. 3-D Wilson, which last week extended the area a half mile to the south into Archer County, began flowing through casing when the well was opened to install pumping equipment. Production is from 2,611-16 feet, in Canyon sand.

In the extreme southwest corner of Baylor County, Wilcox Oil & Gas Co. No. 1 Fritz, on a 623-acre tract in the David Barlow Survey, Abstract 10, topped the K.M.A. lime at 4,130 feet and was drilling below 4,290 feet with no oil indications yet reported.

In Wilbarger County, in the Castlebury pool, Phillips Petroleum Co. was coring below 2,180 feet for the Dyson sand in No. 2 H. C. Shive, Section 79, Block 14, H.&T.C. Survey. This test is about a half mile southwest of the pool proper.

Montague County's newest deep oil possibility, being drilled by Youngblood & Foree in the E. H. Burnett lands of the J. Lenow Survey, west of Nocaon, is drilling below 3,600 feet after passing up a small showing at about 3,500 feet. It is contracted to 4,200 feet

NORTH TEXAS COMPLETIONS

Archer County

W. B. Omohundro No. 1 Charles H. Thurman, 972-75 feet, 200 bbls.; No. 2 Charles H. Thurman, 972-78 feet, 180 bbls. George Proctor and others No. 2 Langford, 2,285 feet, dry. C. H. Staley and others No. 6 Mrs. Anna Mangold, 3,780-3.857 feet, 600 bbls.

Clay County

R. I. Carter No. 1 J. E. Wolf, 1,627 feet, dry. Duncan Holt No. 3 T. P. Duncan, 1,139-52 feet, 135 bbls. Gray & Thweatt No. 4 Mrs. K. Engart, 293 feet, dry; No. 5 Mrs. K. Engart, 300 feet, dry.

Cooke County

Big Indian Oil & Drilling Co. No. 1 Alexander, 2,222 feet, dry. J. G. Richards and others No. 1 J. Rhomer, 17,50 feet, dry. Seitz and others No. 1 C. A. Willis, 2,414 feet, dry. Texas Co. No. 14 T. Truebenbach, 750-78 feet, 50 bbls.

Montague County

O. V. Beck No. 9 Davenport, 1,966-75 feet, 20 bbls.

Jack County

Dallas Royalty Co. No. 1 C. P. Gahagan, abandoned location. Martex Oil Co. No. 6 A. B. Kuykendall B, 3,200-37 feet, 163 bbls. J. Sewell No. 4 Sewell, 348 feet, dry.

Wichita County

Board of Mineral Development Co. No. 1 State of Texas, 3,700-3,759 feet, 840 bbls. Burk Royalty Co. No. 3 W. W. Overby, 3,840-3,998 feet, 720 bbls. L. V. Fitzwater No. 2 Seals, 670 feet, dry. W. W. Houston No. 1 J. H. Oates, 180-85 feet, 2 bbls. J. M. Karstetter No. 4 Warren, 585 feet, dry. King Oil Co. No. 2 Rathke, 2,629-38 feet, 960 bbls. R. B. Magee No. 4 Bowers, 890 feet, dry. J. G. Hammond No. 1 J. C. Strauss, abandoned location. King Oil-Perkins Cullum No. 4 Charles Pettit, 3,720-3,820 feet, 720 bbls.; No. 5 Charles Pettit, 3,723-3,826 feet, 912 bbls.; No. 7 Charles Pettit, 3,748-3,776 feet, 960 bbls. E. B. Madden No. 12 Madden, 550-55 feet, 10 bbls. Owens Oil Co. No. 2 H. B. Hines, 500-14 feet, 10 bbls.; No. 3 H. B. Hines, abandoned location. Petroleum Production Co. No. 91 First National Co., 3,678-3,882 feet, 928 bbls. Rathke Oil Co. No. 16 William Murry, 840-70 feet, 2 bbls. George B. Ray and others No. 2 Waggoner A, 3,742-92 feet, 920 bbls. Shell Pet. Corp. No. 4 R. L. Kempner, 3,792-3,878 feet, 114 bbls.; No. 5 R. L. Kempner, 3,790-3,876 feet, 1038 bbls.; No. 6 R. L. Kempner, 3.775-3,874 feet, 2,520 bbls. H. M. Sutterfield No. 1 Boyd, 692 feet, dry. Sam K. Viersen No. 3 S. W. Wigley A, 3,814-3,904 feet, 960 bbls.

Young County

Brazelton Brothers No. 1 J. R. Barnett, 1,114 feet, dry. R. Bullock No. 1 Mrs. G. E. Johnson, 918 feet, dry. H. Craig No. 1 G. W. Sieboldt, 1,086 feet, dry. S. D. Glover No. 20 C. W. Johnson, 541 feet, dry; No. 21 C. W. Johnson, 550-80 feet, 5 bbls. Brazos Young Corp. No. 1 H. J. Wray, 3,950-4,257 feet, 659 bbls. F. J. Lennen No. 1 R. B. Drum, 550-55 feet, 12 bbls. Long & Wolf No. 1 J. H. Cearly, 4,070-4,255 feet, 12 bbls. R. Olson No. 1 W. P. Stephens, 4,030-4,073 feet, 13 bbls. Sieboldt No. 1 R. A. Crawford, 3,780-3,967 feet, 3,336 bbls. W. S. Taylor No. 1 W. W. Farmer, 780 feet, dry. E. D. Wollks No. 5 Graham Stewart B, 886 feet, dry.

EASTERN TEXAS

DALLAS, Tex., Oct. 31.—Completed wells, new locations, and drilling wells in the East Texas field fell to the lowest level since active development began in the big area. There were only 13 wells completed over the past week and 11 new locations staked as compared to 21 completions and 12 new tests in the previous week. Of the new starts, nine were reported by major companies.

Long-awaited pipe line into the Flag Lake field of northwestern Henderson County will be built by Humble Oil & Refining Co. The company announced plans to lay 20 miles of 4-inch and 6-inch line from its pump station at Mildred in Navarro County, to the north of the field. The area had its eleventh oil producer completed, seventh for the southwest extension area, when potential test was reported for DeArman No. 1 A. B. Tarkington, south offset to Richards & Holloway No. 1 Tarkington. In 24 hours the well made 56 bbls. of oil through 2-inch tubing under 1,120 pounds of casing pressure and 720 pounds of tubing pressure.

In Leon County, Tucker No. 1 Sam Bane, which indicated commercial oil production last week, is testing, after casing was perforated with 12 shots from 5,510-20 feet. As the week closed no show of oil or gas had been developed. The test was being made after hole was plugged back from 5,553 to 5,524 feet. Previously on second test at 5,534-44 feet the well developed salt water with an oil scum. A lower test at 5,576-82 feet developed water.

Houston County received two new tests over the past week. John G. Maho staked No. 1 E. C. Lively in the S. Rogers Survey about 4 miles northeast of Grapeland. Wynne Drilling Co. staked No. 1 May Price in the T. Strother Survey 4 miles west of Grapeland. Both tests are rigging up and operations will start in the near future.

Falls County received a new wildcat location when W. H. Mahon staked No. 1 V. H. Moore in the N. K. Robinson Survey between Lott and Rosebud.

A new test was reported for Navarro County when Mrs. Jane Robinson began deepening No. 1 Fortson Brothers in the E. Smith Survey. The test has been standing for several months, but is now headed for the Paluxy sand expected at about 3,500 feet. Operations were resumed at 2,765 feet.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Anderson County

In the Cayuga field, Harper-Turner No. 4 H. W. Barton, 3,984-4,007 feet, 184 bbls.

Freestone County

In the Cayuga field, Roger Steward No. 1 E. P. Harwell, 4,009-19 feet, 196 bbls. J. L. Collins No. 7 E. P. Harwell, 3,994-4,030 feet, 184 bbls.; No. 10 E. P. Harwell, 4,007-20 feet, 154 bbls.

Henderson County

E. T. DeArman No. 1 Tarkington, 3,043-56 feet, 56 bbls.

Titus County

Humble Oil & Refining Co. No. 11 M. Galt, 4,241-49 feet, 281 bbls.

EAST TEXAS FIELD COMPLETIONS

(One-hour tests)

Gregg County—Longview Area

Atlantic Refining Co. No. 14-A Satterwhite, 3,646-3,741 feet, 80 bbls. Humble Oil & Refining Co. No. 30 Lawrence, 3,602-64 feet, 32 bbls. Magnolia Petroleum Co. No. 23 H. B. Ziegler, 3,444-47 feet, 80 bbls. Shell Petroleum Corp. No. 8 M. C. Saulter, 3,692-3,755 feet, 54 bbls.

Gregg County—Kilgore Area

General Crude Oil Co. No. 12 L. Howard, 3,595-97 feet, 80 bbls. Shell Petroleum Corp. No. 21 P. M. Bates, 3,538-3,611 feet, 54 bbls.; No. 11 H. T. Neal, 3,536-3,626 feet, 52 bbls. Weaver-Crim, 3,537-72 feet, 30 bbls.

Rusk County—Joiner Area

Atlantic Refining Co. No. 8-F C. Young, 3,673-3,798 feet, 65 bbls. Humble Oil & Refining Co. No. 12 First State Bank, 3,695-96 feet, 60 bbls. Ohio Oil Co. No. 50 S. H. Moores, 3,626-97 feet, 34 bbls.

Rusk County—Kilgore Area

Devonian Oil No. 45 R. A. Motley, 3,697-3,709 feet, 50 bbls.

Smith County—Joiner Area

Georgian Oil Corp. No. 4-B C. Cole, 3,798-99 feet, 56 bbls.

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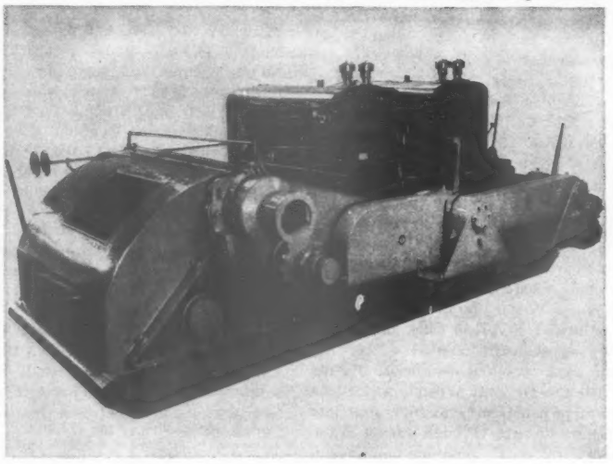

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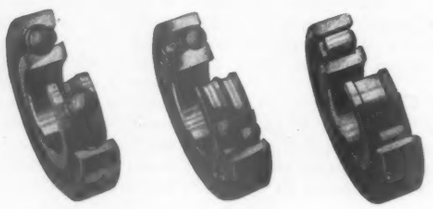


North Louisiana, Arkansas

By GEORGE WEBER

Magnolia Pool's New Lease on Life; Extension of Lisbon

SHREVEPORT, La., Oct. 31.—Discovery of a considerable thickness of saturated lime in the Magnolia field of Columbia County, Arkansas, was the outstanding development of the week in the tri-state area. The field, which recently was given a setback by three dry holes, is showing up with one of the best sections yet discovered in this area, and although its extent is probably limited, it represents an important strike in the South Arkansas sector.

Showings of oil and gas and completions in extension tests also shared interest during the week. The Shreveport field gained a gas and distillate producer, and a probable oil extension late in the week. In the prolific Cotton Valley field, new oil indications in the "D" sand of the lower Marine formation attracted interest to deep tests. Two important wildcats were announced, both in Caddo Parish in the vicinity of Shreveport.

Magnolia Strike

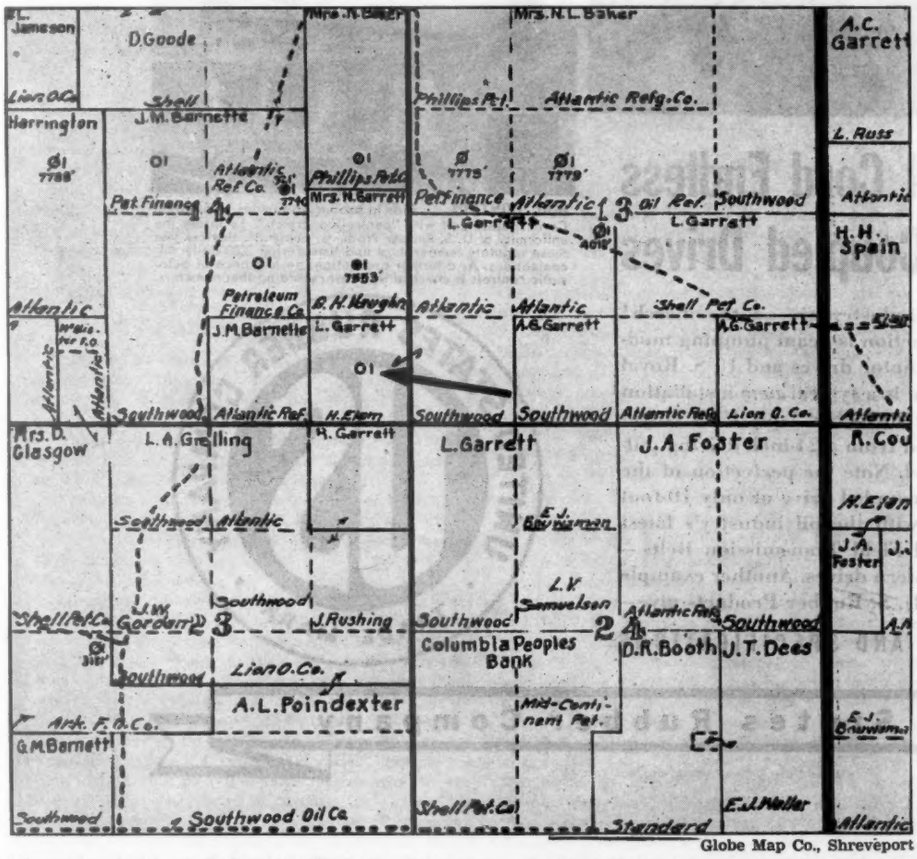
In Columbia County, Arkansas, Grady H. Vaughn No. 2 Garrett, C SE SE Section 14-17-20, has greatly renewed interest in the Magnolia field. The well, a southeast outpost, as shown on the accompanying map, cored the top of the lime at 7,318 feet, 132 feet higher than in Vaughn No. 1 Garrett to the north, and 261 feet higher than in the discovery well, Atlantic Refining Co. (Kerr-Lynn) No. 1 Barnett.

The Magnolia field is showing the steepest dip of any lime field in the country. This was responsible for the dry holes which the Atlantic Refining Co. and the Petroleum Finance Co. drilled as east and west offsets to the discovery. The presence of over 100 feet of saturated section in the Vaughn well to the south makes the area look much more promising, although the extent of the structure must be limited from indications of the considerable dip encountered.

Topping of the Bodcaw sand at 7,259 feet and the Smackover lime at 7,318 feet, drillers went into the porous lime at 7,342 feet and topped the oil at about 7,403 feet. Porosity was cored all the way to total depth, 7,522 feet. Three drill-stem tests were made in this section.

The first test was made at 7,363-83 feet. In six minutes it made 125 feet of drilling fluid, 10 feet of 56.9-gravity distillate at a working pressure of 250 pounds. The second test was made at 7,403-23 feet, showing, on one-quarter inch chokes top and bottom in six minutes, 100 feet of drilling fluid and a stain of distillate with 240 pounds of wet gas.

The third test, at 7,443-83 feet in oolitic lime, was made for 12 minutes using one-quarter inch chokes top and bottom. The recovery was 3,900 feet of fluid, 30 per cent of which was oil. A working pressure of 10 pounds was recorded. From the results of the drill-stem tests, it is difficult to predict this well's production possibilities, but after later developments, with electrical log and a more thorough test to rely on, more definite facts of its importance can be derived.



Globe Map Co., Shreveport

Magnolia field of Columbia County, Arkansas. G. H. Vaughn No. 2 Garrett, indicated by the arrow, cored over 100 feet of saturation. It topped lime 132 feet higher than the north offset

It constitutes a very important development, and the exploration of acreage to the south to determine the size and character of the structure will be watched with interest.

Estimated Production

Estimated daily gross production all companies week ending October 29:

NORTH LOUISIANA

Bellevue	670
Caddo light	4,115
Caddo heavy	2,540
Converse	480
Cotton Valley heavy	80
Cotton Valley light	*10,475
Cross Lake	1,000
De Soto and Red River	1,320
Elm Grove	330
Haynesville	2,850
Holly	90
Homer	2,615
Lisbon	4,340
Pleasant Hill	100
Rodessa	35,070
Sarepta-Carterville	†400
Sligo	2,000
Sugar Creek	310
Urania	2,630
Zwolle	4,030
Total	75,445

SOUTH ARKANSAS

Buckner	1,695
Champagnolle	1,410
El Dorado	1,835
Lisbon	265
Miller County	365
Nevada	630
Rodessa	4,350
Schuler	17,269
Smackover light	2,010
Smackover heavy	15,910
Stephens	555
Troy	1,135
Urbana	1,160
Village	605
Total	49,185

Texas side of Rodessa field, 31,405 bbls. daily.
*3,865 bbls. is distillate.
†170 bbls. is distillate.

Schuler Completions

The Schuler field, of Union County, gained seven new oil wells, reflecting the active drilling campaign which has been under way in that field in recent weeks. The Lion Oil Refining Co. brought in three new wells for a total initial production exceeding 1,700 bbls. The largest well completed was the Lion Oil Refining Co. No. 6 Mayfield, which gauged 47 bbls. hourly through a three-quarters inch choke.

The Marine Oil Co. brought in one well, No. 2 Calloway, for an initial gauge of 621 bbls. per day through a twenty sixty-fourths inch choke. Phillips Petroleum Co. added three with total initial of 1,730 bbls. per day. Drilling in Schuler is continuing at the same rate, despite the fact that the limits of the field are expected to be defined with drilling of edge tests on the northwest in the near future. This is merely problematical, but the second dry hole in the field was completed several days ago on the northwest edge, and reservoir pressures have declined in recent weeks at a rate which indicates that the pool does not extend far beyond the present proven limits.

Cotton Valley

The Cotton Valley field in Webster Parish, Louisiana, came in for its share of attention during the week, with critical depths reached in two tests on the south and southwest edges of the field. The Hunt Oil Co. No. 1 Sandifer, C NE NE Section 4-20-10, a west offset to the discovery well in the "D" sand, this week topped the "D" sand section at 8,534 feet. The sand showed oil at 8,534-50 feet, and operators are drilling ahead below 8,580 feet.

(Continued on Page 91)

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Michigan Field Report

By
O. C. PRESSPRICH

Result of the Week's Work 16 Oil Wells; 11 Dry Holes

SAGINAW, Mich., Oct. 31.—Clare County continues its domination of interest among Michigan oil fields both as the focus for rapid exploration, indicated through mounting permit lists, and through development of prolific new producers in a field of steadily expanding boundaries.

Redding Township (19n-6w), northern neighbor of Freeman Township, the discovery area, topped the week's production report as well as drilling license list. Though only two new producers were added in Redding, both were highly significant. They extended the field considerably, proving a pay vein at least 2 miles wide. Operators daily are becoming more optimistic over the possibilities of the Freeman-Redding area as wells ranging from 500 to 4,000 bbls. per day are brought into production, with few failures.

Both Redding wells of the week extended proved territory north and east from the Freeman discovery. In Freeman there was a possibility that a favorable producing well recently acidized and showing water from an undetermined source, might establish an eastern boundary for that area, but further testing was in order to determine the source of the water.

Freeman Township added two new producers, one being the ranking high well of the week among all fields. The Clare area had four new producers.

Gladwin County's Buckeye field, top producing area in the state, got back on the new production list after three weeks' absence, reporting a 100-bbl. producer in the eastern part of the north (Wicklund) pool.

Van Buren County's new Bloomingdale Township pool experienced its oddest period since discovery in mid-August, with two dry holes, and four producers ranging from 7 bbls. to 1,200 bbls. daily, all within 1½ miles.

Allegan County fields had six new oil wells, all showing declining initial production, and six dry holes as wildcat tests attempted to tap another Overisel discovery. Eight Allegan townships figured in developments, with Overisel, Monterey, and Salem showing new production, the others listed as failures.

The Arenac-Adams field added one well.

There were 16 oil wells completed last week in all fields, and 11 dry holes.

Allegan County

Cheshire Township (1n-14w)—Failure was recorded at American Drilling Co. wildcat, No. 1 Kage, NW NW SE Section 25. Nearest production is nearly 3 miles north in Heath Township.

Fillmore Township (4n-15w)—Gordon & Smith Petroleum Co. No. 1 Fokkert, NE NE SW Section 26, struck water and will be abandoned.

Laketown Township (4n-16w)—Haze & McGill No. 1 Sienk, NE SE SE Section 13, was completed dry.

Martin Township (2n-11w) — The wildcat test of McClanahan Oil Co., No. 1 Johnson, NW SW NW Section 3, was abandoned.

Monterey Township (3n-13w)—Two oil wells were completed in both the new and old parts of the Monterey field. C. Sutherland No. 1 Runkle, SW SW NE Section 24, developed into a freak well after it was acidized, flowing 25 bbls. of oil daily and the same quantity of water. This well is in the older part of the field. Lima Oil Corp. No. 1 Aldrich, NW NW SW Section 6, bordering on the SE cor. Section 36, Overisel Township, acidized a favorable natural show to 250 bbls. daily. This well is on the northwesterly-southeasterly production trend of Overisel, and so far has not been connected with the interior pool of Monterey.

Otsego Township (1n-12w)—R. L. O'Brien No. 1 Jewell, NE SW NE Section 15, found the pay zone dry.

Overisel Township (4n-14w)—Two producers increased the daily potential of the Overisel pool, one having been added in Section 28, continuing to show a northwest production trend from discovery. It was Muskegon Development Co. No. 2 Dannenberg, NW NE NE Section 28, which gauged 65 bbls. natural pinched in. It was scheduled for acid. The same company also brought in the No. 6 Berens, SW SW NE Section 36—discovery area—with production estimated at 250 bbls. daily. Much drilling activity in Overisel has been held up by a rigid 100-bbl.-a-day-per-well proration and the low price of crude. All operators in Section 21 of Overisel are operating under an agreement not to sell oil at less than $1 a barrel, nor to bring in new wells while the price is below that figure.

Salem Township (4n-13w)—Two producers and a dry hole summarized activity in Salem. Mesel & Speilberg No. 2 Jager, SW NW SE Section 21, was acidized to 100 bbls. daily, and C. S. Allender No. 1 Palmer, SW SW NW Section 21, gauged 50 bbls. daily after treatment. The dry hole was A. S. Cochran No. 1 Goodman, SE SE NE Section 20.

Arenac County

Adams Township (19n-3e)—Drabold & Sherry No. 1 Runkle, SW SW NE Section 25, flowed 45 bbls. per day, naturally, and was scheduled for acid treatment. It is the first producer in Adams in two months.

Bay County

Beaver Township (15n-3e)—Although a failure, the test at American Drilling Co. No. 1 Hecht, SW SW SW Section 10, is regarded by operators as significant. The test ran into water at 3,267 feet, in the Dundee limestone, 216 feet below the Dundee top. Valuable structural data was obtained, even though the test failed, operators said.

Clare County

Freeman Township (16n-6w)—Continuing development of its prolific Van Horn leases, Socony-Vacuum Oil Co. added another acidized producer to the potential of the Freeman field at its No. 3 Van Horn, NE NE NW Section 3, which ranked 2,500 bbls. daily, largest producer of the week. Mammoth Producing & Refining Corp. No. 1 Van Horn, NW NE SE Section 3, was acidized to 2,000 bbls. daily, but later was reported to have encountered water. The source of the water was not immediately determined, but should it continue operators said it might indicate an eastern boundary for the Freeman field. Operators were watching the test closely for establishment of a possible boundary.

Grant Township (17n-4w) — Wildcat extension of pay territory two townships west and one south of Freeman was blocked temporarily through a dry test at F. Bryan No. 1 Graham, SW NW NW Section 11.

Redding Township (19n-6w)—By the importance of its two new producing tests last week, Redding Township drew the major interest among state fields, and definitely confirmed as well as extended the Freeman producing area. Both wells were rated highly. Pure Oil Co., which holds controlling blocks of acreage in the Redding area, developed one of the significant wells at its No. 1 Zink, C N half SW SE Section 27, which entered production at 1,000 bbls. naturally. The Zink well definitely confirms the Redding area first struck at Pure No. 1 Switzer, C S half NW SW Section 27, half a mile west of the Zink well. The Switzer well is reported flowing 500 bbls. after acid. This producing area of Redding is 1½ miles north of Freeman production. McClanahan Oil Co. No. 1 Clare County-State, SE NW SW Section 33, drilled into the pay zone last week after a two-week fishing job, and flowed 50 bbls. in four hours. It was scheduled for acid treatment. The McClanahan outpost is 1 mile northwest of the Freeman area, and on the basis of Pure's Zink and Switzer wells, would indicate that the Redding pay zone is at least 2 miles wide. Permit lists for Redding exploration were up, forecasting rapid development.

Gladwin County

Buckeye Township (18n-1w)—Nearly a month has elapsed since Buckeye appeared on new production lists. R. LaBlanc No. 3 Campbell, NW SE NE Section 12, was acidized last week to 100 bbls. daily. The well is about a mile east of the Wicklund discovery, surrounded by proved locations.

Lapeer County

Burnside Township (9n-12e) — Belief that oil in commercial quantity could be found in Burnside Township, approximately 2 miles west of Brown City, has smouldered for more than 15 years, but still is unproved. It remained for Hether & Appel to drill the No. 1 Foster, NE NE SE Section 26, which was completed last week as a dry hole. Burnside Township was the scene in 1922 of an oil well drilling hoax and promotion scheme which resulted in many farmers losing their savings. At that time Burnside was alleged to be located on the same production structure as the Petrolia, Ontario, field.

Montcalm County

Winfield Township (12n-9w)—Michigan's first gasser in many weeks was tapped at Taggart Brothers No. 6 Thompson, C NE SE Section 8, gauged at 2,100,000 feet a day.

Roscommon County

Backus Township (22n-2w)—V. R. D. Kirkham No. 1 St. Helen, NE NE SE Section 36, failed to log production and will be abandoned. It is the second recent attempt to prove up oil territory in Roscommon.

Van Buren County

Bloomingdale Township (1s-14w) — Six Bloomingdale completions, five in the same section, developed last week the first enigma of the field. Dry holes and widely varying production gauges on the new wells provided a real puzzle for operators, who put it down as just one of those things that can happen in almost any oil field. One of the producers was acidized to 7 bbls. daily, another nearby acidized completion showed 100 bbls. daily, still another shot up to 1,200 bbls. daily, with dry holes sprinkled between. Fisher & McCall No. 1 Lundberg, SE NW SW Section 16, was the 1,200-bbl. producer. Vanco Oil & Gas Co. No. 1 Alfred, NW SW NW Section 16, was treated for a 100-bbl. daily gauge, and the same company's No. 1 Robart, NE SE NE Section 17, showed 35 bbls. naturally. There were two dry holes, both in Section 16, H. R. Allen No. 1 Kent, NE NE SW, and Michigan United Oil Co. No. 1 Hicks, SE SE NW.

International Petroleum Exposition Dates to Be May 18-25, 1940

President W. G. Skelly has announced May 18 to 25 as the dates for the eleventh International Petroleum Exposition in Tulsa in 1940.

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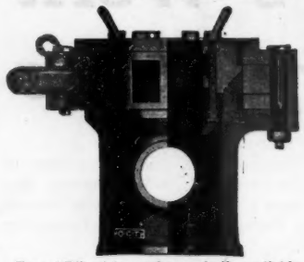
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Among the Drilling

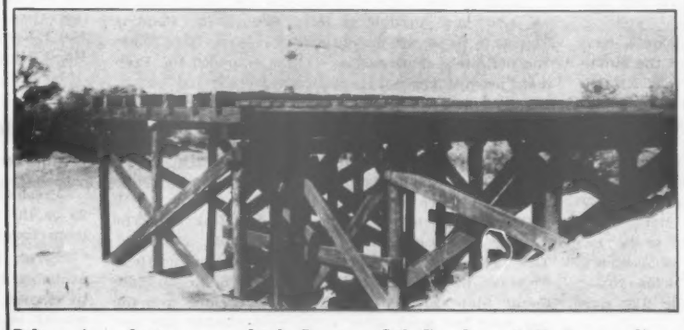
McLESTER DRILLING CO., of Graham, Tex., has indicated a new producing horizon in one of Young County's recently discovered oil pools. The test is No. 1 Mosley, in the Mosley Survey, Abstract 2222, and is being drilled for Homestead Oil Co. The discovery well in the area, completed for 1,200 bbls. of oil in 24 hours, naturally, was bottomed at 3,775 feet, while the new test filled with oil for a zone encountered at 2,472 feet. The hole filled with oil in 20 minutes and began spilling over the top, after which it bridged 10 feet off bottom. Two feet of the oil sand was drilled. The area is about 3 miles southwest of Graham.

TAUBERT & McKEE DRILLING CO., of Fort Worth, Tex., are moving in materials for one of two tests planned for north Trinity County, East Texas. The contractors acquired the acreage on a farm-out from Humble Oil & Refining Co., and the well will be their No. 1 First National Bank at Groveton, on a 78-acre tract in the James Walker Survey. The well is contracted to 2,000 feet.

WILBANKS BROTHERS, drilling contractors of Big Spring, Tex., have a drilling program under way for Pantex Oil Co. and Pecos State Oil Co. in the Pecos River bed of Pecos County, West Texas. They have completed two new producers in the river bed and the companies have application for three more tests on river acreage taken over from the Monday Oil Co. Pantex Oil Co. No. 3 State, Tract 2, Section 6-9, H.&G. N. Survey, made 510 bbls. of oil in 24 hours from a total depth of 1,823 feet, while Pecos State Oil Co. No. 1 State, in Tract 1, was completed for 103 bbls. of oil in 24 hours from a total depth of 2,025 feet. A dock or pier is built out over the location on which the rig is skidded, then built up from underneath, thus eliminating necessity of a full-width platform from the river bank to the location. The operators are experimenting with steel understructure where the river-bed rock is sufficiently solid to eliminate setting the posts of the foundation into the ground.

FRED POOLE, contractor of Stamford, Tex., has spudded a new wildcat in Haskell County, West Central Texas, for Fred Browning, A. H. Culbertson, and E. W. Culbertson. It is No. 1 Hughes, Section 46-3, L. Dyches Survey. The test is drilling below 1,000 feet, seeking production from around 2,900 feet, from the Adams Branch lime, producing in the Pardue pool about 2 miles northeast.

DEWEY KNOX, contractor of Graham, Tex., has indicated a deeper pay for the old Oil City pool of Young County, North Texas, in the Bunger district about 7 miles south of Graham. The well is Mid-Conti-



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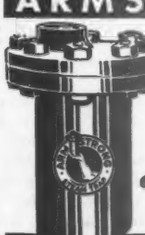
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nent Petroleum Corp. No. 4 R. D. Owens, southeast quarter of Abstract 2245, which began flowing through 8-inch casing after picking up a new pay while deepening from the 2,100-foot level. The test, an old well which had been producing since 1922 from the 2,100-foot horizon, was being deepened toward the Marble Falls lime, expected at about 3,800 feet, when it encountered pay at 2,420 feet in the Strawn sand series.

COOK DRILLING CO., of Fort Worth, Tex., and John G. Mayo, of Houston, have staked another wildcat test in the Percilla area of northern Houston County, East Texas. The test will be drilled on farm-out acreage from Shell Petroleum Corp. which holds approximately 30,000 acres in the area. Test will be No. 1 E. C. Lively, on a 217-acre tract in the Stephens Rogers Survey. The operators recently abandoned their No. 1 Vera Warrock, about 2 miles east of the discovery well on the structure, after encountering salt water at 5,500 feet.

HOUSH & THOMPSON have started drilling on an interesting test in the "Goodykoontz" area, northeast of the Fairbanks field, Harris County, Texas. The well is on the G. L. Baines lease, about a half mile northwest of Union Producing Co. No. 1 Goodykoontz, the only producer in the area. Housh & Thompson No. 1 E. B. Clary, several miles northwest of the Conroe field, Montgomery County, has been spudded.

SMITH & McDANNALD are moving a large rotary south of the townsite of South Houston in Harris County, Texas, for a projected 8,500-foot test. The well will be drilled jointly with Stanolind Oil & Gas Co. South of the Eureka field about a half mile No. 1 H. H. Ford is being tested for the Tide Water Associated Oil Co. Another new operation is being started in the Withers field for themselves.

GEORGE ECHOLS is preparing to spud No. 1 Haardt, 2 miles north of the newly opened League City field in Galveston County, Texas. The well is being drilled for H. C. Cockburn and will be drilled below 9,000 feet. Locations for two wells have been made in the same field by Echols, and a rig is being moved in from the Hardin field in Liberty County.

HARRY L. EDWARDS DRILLING CO. received contract from the Mid-States Oil Co. for No. 1 Maco Stewart, east of the League City discovery well, Galveston County, Texas. Two operations are being started in the Dickinson field, Galveston County, for Coast Petroleum Co. and Mid-States Oil Co., while in the Charenton field Harry L. Edwards No. 1 Robichaux has been completed for a small pumper in the 1,700-foot sand and a second well is being started.

NICKLOS DRILLING CO. has completed two new producers in the Villa Platte field, Evangeline Parish, Louisiana, for Continental Oil Co. and received contract for two additional wells. No. 1-A Homeseekers, a workover job in the Tepetate field, Acadia Parish, is drilling below 9,013 feet, while No. 5 State in the Fausse Point field for Texas Co. is drilling below 5,557 feet.

PORTER DRILLING CO. received contract from Crown Central Petroleum Corp. for a 5,500-foot wildcat which will be drilled 1½ miles north of the Louise field in Wharton County, Texas. The well is on the Ruby Babcock lease in the Samuel B. Middleton Survey. Contract was also received from Magnolia Petroleum Co. for another well in the Cordelle field, Jackson County.

ALLEN & MORRIS have abandoned Darby Petroleum Co. No. 1 Rooke, 1 mile north of the La Rosa field, Texas, at a total depth of 6,053 feet. In the field proper, I. J. Allen No. 2 Spaulding is making a drill stem test at 5,900-11 feet, while for the same operator, No. 1 Yarrow is running casing for completion after coring oil sand at a total depth of 5,920 feet. Two operations are reported in the Luby field for Seaboard Oil Co., while at the Clara Driscoll field Texas Co. No. 1 Flinn is waiting on cement to set after making a squeeze job at 5,417-20 feet. Missouri Pacific No. 1 fee, a "relief" well, is bottomed at 2,275 feet and mud is being pumped into the hole in an attempt to kill a crater hole which has been active for the past two years.

JACK FRAZIER staked locations for two more wildcats in Harris County, Texas, which makes a total of four such tests that will be drilled in the county by Frazier. No. 1 Joe Hornberger is northeast of the Clinton field in the B. N. Cessums Survey, while No. 1 W. T. Carter, 2 miles northwest of No. 1 Hornberger, is located in the Talcott Patching Survey.

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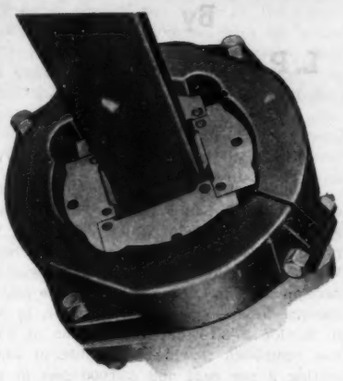

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California Field Report

By
L. P. STOCKMAN

Open Pool in San Fernando Valley; New Pay Is Found

LOS ANGELES, Calif., Oct. 31.—Discovery of an oil field in the San Fernando Valley area of Los Angeles Basin by Tide Water Associated Oil Co. and probable discovery of new productive horizon in the West Montebello field by the Hathaway Co. featured developments in California during the past week. Associated's discovery well, No. 1 Porter, in Aliso Canyon in Section 27-3-16, has an elevation of 2,180 feet and was completed flowing 1,050 bbls. of 25.6-gravity oil cutting 3 per cent and 650,000 feet of gas per day from a depth of 5,363 feet. The hole was originally bottomed at 5,393 feet, but a gray sand cored in the bottom of the hole prompted the company to plug back to the completion depth. The well was finished with a 6⅝-inch water string landed and cemented at 4,795 feet and 594 feet of 4½-inch liner including 564 feet of perforated hung at 5,359 feet and a string of 2⅛-inch tubing. The well was brought in flowing through a 32/64-inch bean and showed a tubing pressure of 140 pounds and a casing pressure of 420 pounds.

No. 1 Porter drilled through a fault zone at 1,400-1,800 feet, the steep dips definitely indicating the existence of an overturned fold. This together with possible severe thrust faulting may be responsible for the accumulation of oil and gas. The bit started in rocks of the Modello formation of upper Miocene age and, contrary to the normal geologic column, then penetrated the Pico formation (Fernando group) of upper Pliocene age. This reversal of the geologic column reflects the existence of an overturned fold, the normally higher Pliocene being folded beneath the older Miocene. No. 1 Porter, which is in Los Angeles County, about 7 miles northwest of San Fernando and about 28 miles northwest of Los Angeles, is producing from a zone consisting of oil sand and shale approximately 560 feet thick. Although the productive zone contains shale bodies and shells it is sufficiently thick to justify the expectation of long-lived production. Topography of the area is rather severe consisting of numerous hills and canyons but is susceptible of easy development. Tide Water Associated Oil Co. controls about 900 acres in the area and Union Oil Co. has acquired the 200-acre W. W. Orcutt ranch, located about 500 feet from the discovery well. Completion of No. 1 Porter has greatly stimulated leasing activities and additional acreage is being acquired by Standard Oil Co., General Petroleum Corp., Richfield Oil Corp., Shell and others. Due to its location and also because of the relatively large leases involved, no extensive drilling is anticipated although Union Oil Co. and Tide Water Associated Oil Co. will probably undertake additional development work before the close of the current year. Barnsdall Oil Co. focused the attention of operators on this area a year or so ago by discovering a new oil field in Section 26-4-17 on the Rancho San Francisco. Barnsdall's field, however, is a well-defined anticline located about 10 miles north of Tide Water Associated Oil Co.'s new field in the San Fernando area. The former has completed three excellent producing wells on its holdings and at present appears to hold all of the potentially productive acreage.

Tide Water Associated Oil Co. opens a field in the San Fernando district. No. 1 Porter flowed 1,050 bbls. per day from 5,363 feet

Montebello Extension

Hathaway Oil Co. is believed to have discovered a new productive zone in the west end of the Montebello field, where operators have been aggressively developing two zones found by St. Helens Petroleum Co. last year. St. Helens found the fifth zone in basal Pliocene in its deep zone discovery well and subsequently found a sixth zone in upper Miocene, both of which have proved to be highly productive. Hathaway Oil Co. appears to have found a seventh productive zone in No. 1 Dore, although this will not be definitely known until the well has been placed on production. On the basis of a formation test, however, this seems to be only a formality as the well came in flowing 150 bbls. per hour of 35-gravity oil along with about 1,000,000 feet of gas. Gas rose to the surface in five minutes and oil appeared about an hour later. The packer was closed immediately as no tankage had been erected and the gas presented a fire hazard due to the well's proximity to a well-traveled highway. No. 1 Dore is at Maple and Beverly Boulevard, south of the latter street, and is the most southerly well in the western extension. The showing has greatly stimulated leasing activities south of Beverly Boulevard both east and west of the well. A sand bridge has been placed in the bottom of the hole and a water string is at present being run preparatory to an early production test. The showing definitely improves the outlook of the western end of the structure and may lead to the drilling of at least one deep well in the near future. The productive limits of the fifth and sixth zones have been fairly well defined to the west but the new seventh zone opens up new possibilities and may extend farther west than the

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	October 20		October 13			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	852,826	129,788
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	194,163	27,738	.....	.....	2,631,841	3,543,514
Kerosene	.....	.....	.....	.....	257,005	328,907
Foreign exports—						
Crude oil	325,083	46,440	98,150	14,021	17,667,687	12,276,574
Fuel oil	295,168	42,167	135,637	19,377	7,427,052	11,823,157
Diesel and gas oil	57,750	8,250	.....	.....	4,940,657	6,318,016
Gasoline	113,305	16,186	397,663	56,809	6,457,739	6,640,287
Kerosene	10,510	1,501	.....	.....	862,828	1,967,922
Lubricants	.....	.....	.....	.....	173,388	12,984
Other unfinished oil	.....	.....	.....	.....	.....	974,785
Coastwise-domestic—						
Crude oil	90,314	12,902	345,757	49,394	9,785,619	4,496,888
Fuel oil	270,508	38,644	303,520	43,360	9,663,018	12,586,372
Diesel and gas oil	54,800	7,829	13,556	1,937	1,282,948	1,885,609
Gasoline	230,305	32,901	238,385	34,055	12,118,732	12,844,355
Kerosene	.....	.....	6,197	885	208,566	319,564

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	196,644	222,330
Gasoline	.....	.....	.....	.....	25,409	25,778
Kerosene	.....	.....	.....	.....	16,124	72,750
Asphalt	.....	.....	.....	.....	490,039	413,885
Lubricants	3,040	434	.....	.....	19,945	25,522
Foreign exports—						
Crude oil	.....	.....	101,911	14,559	4,588,646	2,707,852
Fuel oil	51,358	7,337	82,306	11,758	2,261,553	1,758,156
Diesel and gas oil	104,060	14,866	100,159	14,308	2,423,641	2,531,223
Gasoline	189,621	27,089	34,342	4,906	4,726,537	4,390,310
Kerosene	.....	.....	.....	.....	696,099	823,159
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	61,415	8,774	19,614	2,802	485,567	474,494
Coastwise-domestic—						
Fuel oil	197,602	28,229	140,128	20,018	5,005,548	5,279,149
Diesel and gas oil	28,688	4,098	38,712	5,530	1,265,755	1,136,698
Gasoline	185,914	26,559	98,740	14,106	6,455,032	4,482,809
Kerosene	31,216	4,459	18,919	2,703	481,002	250,432

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	852,826	129,788
Diesel and gas oil	.....	.....	.....	.....	196,644	399,056
Gasoline	194,163	27,738	.....	.....	2,657,250	3,569,292
Kerosene	.....	.....	.....	.....	273,129	401,657
Asphalt	.....	.....	.....	.....	490,039	413,885
Lubricants	3,040	434	.....	.....	19,945	25,522
Foreign exports—						
Crude oil	325,083	46,440	200,061	28,580	22,256,333	14,984,426
Fuel oil	346,526	49,504	217,943	31,135	9,688,605	13,581,313
Diesel and gas oil	161,810	23,116	100,159	14,308	7,364,298	8,849,239
Gasoline	302,926	43,275	432,005	61,715	11,184,276	11,030,597
Kerosene	10,510	1,501	.....	.....	1,558,927	2,791,081
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	61,415	8,774	19,614	2,802	658,955	487,478
Other unfinished oil	.....	.....	.....	.....	.....	974,785
Coastwise-domestic—						
Crude oil	90,314	12,902	345,757	49,394	9,785,619	4,496,888
Fuel oil	468,110	66,873	443,648	63,378	14,668,566	17,865,521
Diesel and gas oil	83,488	11,927	52,268	7,467	2,548,703	3,022,307
Gasoline	416,219	59,460	337,125	48,161	18,573,764	17,327,164
Kerosene	31,216	4,459	25,116	3,588	689,568	569,996

present productive horizons. Union Oil Co. will benefit to a large extent if this new zone proves highly productive as it controls a large part of the potentially productive acreage north of Beverly Boulevard through leases held on the Wilcox, Paul Howard, Howard & Smith and Calkins leases. It is quite obvious that other operators in the western end of the area will immediately begin deepening operations if No. 1 Dore results in large production as present production of some of these wells from the fifth and sixth zones is showing evidence of water infiltration, or formation water. Recently operators have found a second productive horizon in the sixth zone and this zone is located at about 6,400 feet. Two new wells were completed in the new zone during the past week and both showed good production. These were Standard Oil Co. No. 3 Braun, flowing 342 bbls. of 34.3-gravity oil and 106 bbls. of water per day from 6,470 feet and Montebello Wesco No. 1 Extension finished flowing 540 bbls. of 36.9-gravity oil cutting 5 per cent from 6,458 feet. Production of both wells cleaned up subsequent to completion and each is making about 1,000,000 feet of gas per day along with the oil. No. 3 Braun was finished with 90 feet of 6⅝-inch liner including 50 feet of perforated and 6,323 feet of 2½-inch tubing while No. 1 Extension was finished with 268 feet of 5½-inch liner including 55 feet of perforated landed on bottom.

Harbor City

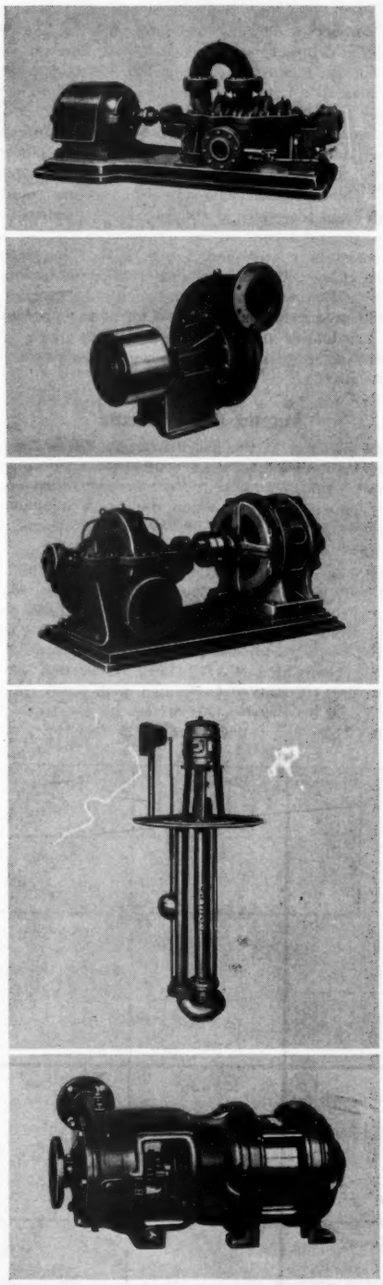
Operators in the Harbor City area, south of the Lomita section of the Torrance field, have just closed a busy week during which time eight new wells were passed for production. Richfield Oil Corp. definitely extended the eastern limits of production by completing No. 1 Spring, the most easterly outpost in the field flowing 220 bbls. of relatively clean 29.4-gravity oil per day through a 36/64-inch bean from 5,202 feet. As a result of this completion, Richfield has started work on No. 1 Capitol and No. 1 Stone and both will begin making hole shortly. Bandini Petroleum Co., a subsidiary of Wilshire Oil Co., large independent refiner and marketer, completed its first well in the Harbor City area by finishing No. 1 Harbor flowing 218 bbls. of clean 29.8-gravity oil daily from 5,267 feet. This hole was finished with 100 feet of 6⅝-inch liner including 77 feet of perforated and production brought in flowing through a 20/64-inch bean. Severns Drilling Co. No. 1 P. E., drilled on the Pacific Electric Railway's right of way, has been completed flowing 160 bbls. of 28.9-gravity oil cutting 8 per cent from 5,273 feet, but the well's output may clean up to some extent after the well has been on production for a few days longer.

The increasing number of completions in the Harbor City area has stimulated production of the Torrance field with which it is included although very few of the new wells have shown large production. The Harbor City area up to the present appears capable of yielding wells good for initial production ranging from 100 bbls. to 700 bbls., but does not seem to have sufficient pressure to contribute large wells. For this reason the area appears to be of secondary importance but will continue to be a factor in state production for several months due to aggressive development and increasing amount of drilling. The two largest completions in the Harbor City area this week were Century Oil Co. No. 1 Howry, flowing 630 bbls. of 29.3-gravity oil through a 22/64-inch bean from 5,300 feet, and Ring Oil Co. No. 1 Mahar, finished flowing 645 bbls. of 29.3-gravity oil daily from 5,261 feet. Western Talc Oil Co. No. 1 Western came in flowing 494 bbls. per day through a five-eighths inch bean from 5,325 feet but while the initial output was considered favorable the oil failed to clean up and the company will therefore undertake an additional recement job on the 7-inch water string landed at 5,190 feet. Wilton Oil Co. No. 6 Harbor, bottomed in the pay at 5,300 feet and finished with 179 feet of 5½-inch liner including 164 feet of 125-mesh screen, was completed flowing 344 bbls. of 29.3-gravity oil cutting 2.5 per cent. A. N. Macrate No. 1 Kupfer has been completed flowing 106 bbls. of 29.3-gravity oil cutting 6 per cent from 5,273 feet and may necessitate some remedial work as it appears that the perforations have become plugged. In the Lomita district of the Torrance field, Louisiana Oil Co. completed No. 1-A Lord pumping 196 bbls. of relatively clean 28.7-gravity oil per day from 5,145 feet but the crew got a surprise the next day when the well began flowing at a higher rate. It is at present flowing 340 bbls. per day. Pacific Western Oil Co. has recompleted No. 7 Marble pumping 110 bbls. of 26.1-gravity oil cutting 5 per cent from 4,990 feet. This well, a former upper zone producer, was deepened to its present bottom and the hole finished with 198 feet of 5-inch liner including 68 feet of perforated.

Rio Bravo

Union Oil Co. discoverer of the Rio Bravo field of Kern County, completed No. 5-34 Kern County Land late in the week flowing 2,500 bbls. of 37.2-gravity oil and 2,060,000 feet of gas per day through a 26/64-inch bean from the Rio Bravo sand with bottom of the hole at 11,500 feet. The top of the pay was logged at 11,240 feet, which gives the well 260 feet of oil sand from which to produce. Tubing pressure is 2,000 pounds and casing pressure 1,950 pounds, thus indicating that the well is capable of producing several times its initial. In conformity with the curtailment agreement all wells are pinched back to 500 bbls. per day immediately following completion. Union Oil Co. expects to have two additional wells in this field ready for production tests before the close of another week or 10 days at the most. No. 2-34 Kern County Land, the jinx well of the field which has been drilling since last December and which encountered one fishing job after another, is in the pay and should lead the way. The bit in this hole is going ahead at 11,300 feet as a satisfactory water shutoff was made on the 7-inch landed at 11,205 feet. A formation test with the tester open for 20 minutes resulted in a recovery of 1,000 feet of clean 37-gravity oil and it took the crew four hours making the test and bleeding off oil and gas. No. 2-34 should be followed into production by No. 6-34 Kern County Land within a few days as both are rotating ahead in the pay. None of Union's several wells in the Rio Bravo field except the discovery well

(Continued on Page 90)



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Oklahoma Operations

By DAL DALRYMPLE

Third Wildcat in Noble Area Started; Two Near Pay Zones

The Noble area of Cleveland County held interest of Oklahoma operators the past week, with work starting at a new wildcat and two other outposts nearing hoped-for pay horizons. The new test is the Harper-Turner and others No. 1 Taylor, SE NE NW Section 23-8n-2w, north of the town of Noble. Continental Oil Co. and Fain Drilling Co. are associated with Harper-Turner in this test, the latter firm having the drilling contract for 7,800 feet.

It is thought the location is on the major structure worked out by Hubert Bale on the Nemaha trend, but it will require the drill to determine if this is true or if it is on a new structure. The discovery well in the Noble district was drilled by W. A. Delaney and associates south of the townsite. Original subsurface geology on the big structure was worked out by Mr. Bale, but work on the north end of the structure was done by Mike Hamilton, with Harper-Turner, who became interested in the trend of the Nemaha ridge southward after discovery of the Moore field. The operators also core-drilled a wide area around the townsite.

Harper-Turner leased about 3,000 acres in this district, later disposing of some of it. In addition to those interested in No. 1 Taylor, operators having leases on the structure include Gulf Oil Corp., Texas Co., Phillips Petroleum Co., Rogers & Rogers, British American Oil Producing Co., Champlin Refining Co., Sinclair Prairie Oil Co., W. A. Delaney, Stanley Rogers and E. L. Martin.

Gulf Oil Corp. No. 1 Taylor, SE SE SW Section 1-7n-2w, 1 mile north of the Noble pool discovery well, was reported drilling below 7,208 feet, possibly in Sylvan shale. It topped Hunton lime at 6,996 feet and was thought to have based it at 7,170 feet. Big Chief Drilling Co. and others No. 1 Strateger, NW NW SW Section 25-9n-2w, east of Norman, was drilling below 7,110 feet.

A new Bartlesville sand producing area apparently is being opened northeast of Bristow, Creek County, at Midco Oil Corp. No. 1 Leverett, NE NE NW Section 7-16-10. It topped Bartlesville sand at 2,345 feet, and had gas estimated at 1,500,000 feet. Saturated oil sand was found at 2,365-69 feet, pipe was set and operators expected to drill in Thursday or Friday of this week. On present showing, the well is estimated good for 30 to 40 bbls. of oil daily. Operators believe, however, that after drilling 20 or 30 feet deeper into the sand and shooting it will be good for 100 bbls. daily.

A plan to provide a market outlet for about 6,000 stripper wells in southeastern Osage and northern Tulsa counties was announced following a conference between members of the Osage producers committee and E. B. Reeser, president of Barnsdall Refining Corp. The Barnsdall company will resume running the oil from the wells to storage at the Barnsdall refinery, the producers paying 12 cents gathering and transportation charge and 1 cent a barrel a month storage charge. When prices for refined oil products justify reopening of the refinery, the company will pay the producers for the crude oil at the prevailing price schedule of $1.10 for 40 gravity and above, with a 2-cent differential down to 86 cents a barrel for below 29 gravity.

Among the Wildcats

Two wildcats in the gas district in Texas County, Oklahoma Panhandle, were completed as producers the past week. Wildcats in McClain and Atoka counties failed to find production and were abandoned. Outpost tests were started in Seminole, Stephens and Osage counties.

Republic Natural Gas Co. No. 1 Bunger, C S half S half SE Section 13-6n-15ecm, Texas County, found pay dirt at 2,665-2,844 feet, total depth 2,855 feet, was acidized with 2,000 gallons and produced 17,800,000 feet of gas, with 430 pounds rock pressure.

Same company's No. 1 Thrall, C Section 22-6n-14ecm, Texas County, was treated with 2,000 gallons of acid and produced 9,400,000 feet of gas from pay at 2,638-2,830 feet, total depth 2,875 feet.

W. A. Villines No. 1 Pearson, SE SW NE Section 13-5n-3e, wildcat near Chism in southeastern McCain County, topped Wilcox sand at 2,990 feet and was dry and abandoned at 3,006 feet, total depth.

C. M. Shelton No. 1 Lee, NE NW SW Section 2-4s-10, wildcat near Caney in Atoka County, had a hole full of water and was abandoned at 3,455 feet, total depth. Arbuckle lime was topped at 2,845 feet. It had a slight showing of oil at 3,400-05 feet and a showing of gas at 3,446 feet.

Simpson & Roodhouse No. 1 Watson, SE NE SW Section 11-6n-5e, wildcat north of the Grayson area in Seminole County, was a rig.

Olson Drilling Co. No. 1 Osage, C N half NW NW Section 24-26-4e, was location for a wildcat in Osage County.

Phillips Petroleum Co. staked location at No. 1 Culbertson, NW NW SE Section 4-1n-5w, wildcat west of Doyle in Stephens County, based on surface, subsurface, and seismograph geology.

Estimated Daily Production

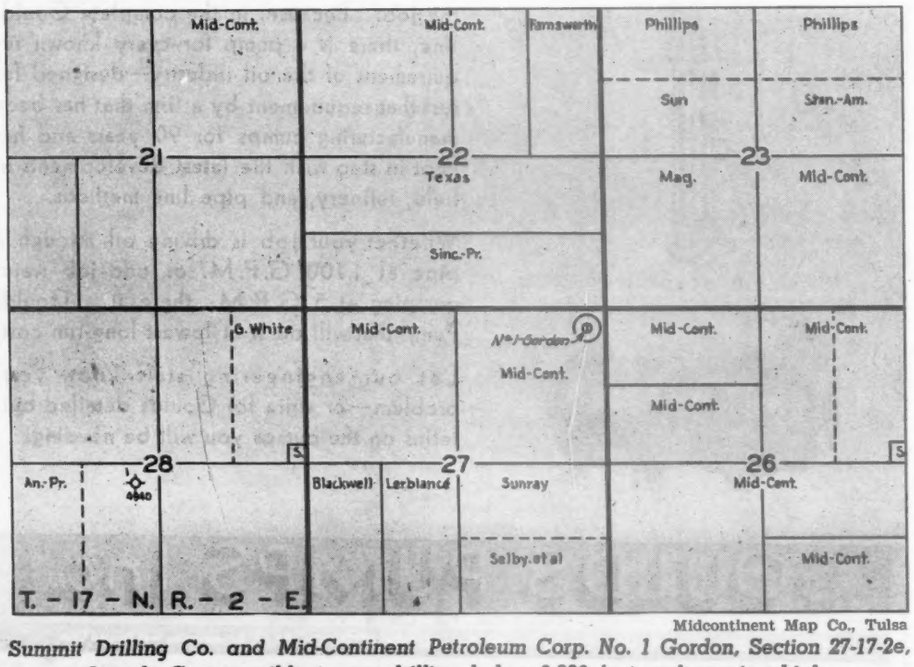
Estimated daily production for Oklahoma for the week ending October 29, and for the preceding week was as follows:

	Barrels	
	Oct. 29	Oct. 22
Allen	6,050	6,450
Billings	4,950	4,600
Burbank	7,825	7,675
South Burbank	10,250	10,375
Balance Osage	15,300	17,000
Blackwell district	4,225	4,275
Bristow-Slick	6,850	6,650
Chandler	2,050	1,950
Crescent	3,750	3,975
Cromwell	3,175	3,400
Cushing-Shamrock	10,250	10,550
Duncan district	4,125	4,200
Edmond	4,900	4,925
Fish	3,075	3,025
Fitts	38,050	38,025
Jesse	2,650	2,250
Graham-Fox	4,300	4,425
Gray	825	925
Healdton	9,750	9,775
Hewitt	3,425	3,600
Keokuk	4,075	4,100
Konawa	1,350	1,275
Lucien	8,250	8,225
Moore	4,725	4,550
Oklahoma City	85,450	104,950
Olympic	4,275	4,625
Ramsey	2,400	2,450
Sasakwa	1,325	1,400
Sholem-Alechem	2,425	2,475
Seminole district:		
Bowlegs	8,775	8,075
Carr City	3,150	3,125
Dora	5,025	4,650
Earlsboro	5,200	4,725
South Earlsboro	475	425
East Earlsboro	4,625	4,500
Little River	7,275	6,675
East Little River	825	900
Maud	675	650
Mission	1,575	1,325
Seminole	8,225	7,850
East Seminole	1,650	1,600
Searight	2,875	2,900
Total Seminole	50,350	47,400
St. Louis-Pearson	23,925	22,775
Tatums	2,525	2,475
Tonkawa-Garber-Thomas	4,225	4,250
Wewoka	2,125	2,150
Yale-Jennings	3,825	3,925
Other pools	85,000	85,700
Total Oklahoma	432,025	450,775

Lincoln County

Wilcox Oil & Gas Co. No. 11 De Lozier, NW NE NW Section 15-14-6, Sac and Fox pool, Lincoln County, found Prue sand at 2,912 feet, was bottomed at 3,000 feet, and flowed 85 bbls. of oil in 24 hours through casing after a shot at 2,925-3,000 feet. Gas gauged 1,000,000 feet.

Same company's No. 17 Sac and Fox, NE SE SW Section 15-14-6, had initial production of 62 bbls. of 47-gravity oil and 1,500,000 feet of gas daily after a



Midcontinent Map Co., Tulsa

Summit Drilling Co. and Mid-Continent Petroleum Corp. No. 1 Gordon, Section 27-17-2e, Lincoln County wildcat, was drilling below 3,660 feet and running high

shot at 2,952-3,034 feet. Top of Prue sand was 2,935 feet, total depth 3,037 feet.

Wilcox Oil & Gas Co. No. 6 Fitch, SE NE NE Section 15-14-6, had Prue sand at 2,905-80 feet, total depth 2,984 feet, was shot at 2,910-84 feet, and flowed 59 bbls. of oil in 18 hours with gas estimated at 1,500,000 feet.

New work in Lincoln County: Mudge Oil Co. No. 2 Powell, SW SE NW Section 10-14-6, drilling below 1,405 feet; Mudge Oil Co. No. 6 Robertson, SE NW, SW Section 10-14-6, Prue sand 3,134 feet, total depth 3,138 feet, rigging up standard tools; Wilcox Oil & Gas Co. No. 2 Saylor, NW SW NW Section 14-14-6, drilling below 950 feet; Wilcox Oil & Gas Co. No. 3 Saylor, SW NW NW Section 14-14-6, location; Sinclair Prairie Oil Co. No. 6 Buckles B, NE NE SE Section 15-14-6, total depth 2,405 feet, fishing; Coralena Oil Co. No. 1 Sac & Fox, NE NE SE Section 16-14-6, drilling below 2,950 feet; same company's No. 2 Sac & Fox, SE NE SE Section 16-14-6, rig.

Pottawatomie County

Clark & Co. No. 1 Engle, NW SE NE Section 27-7-4, St. Louis pool, Pottawatomie County, found some saturation in second Earlsboro sand at 3,426-29 feet, but was dry and abandoned at 3,450 feet, total depth.

Taber & Coleman No. 2 Green, NE SW NE Section 4-5-5, an old St. Louis well, was plugged back from 4,201 feet to 3,420 feet, ripped casing and shot and produced 200 bbls. of 36.5-gravity oil through tubing in 24 hours. Gas volume was 3,500,000 feet.

First reports of new activity in Pottawatomie County: Farmers Mutual Royalty Corp. No. 1 Fiddler, SW SW SE Section 4-5-5, location; same operator's No. 1 Waite, NW NW NE Section 9-5-5, location; Denver Producing & Refining Co. No. 1-A Houck, SE NW NW Section 1-6-4, cellar and pits; Harry Schafer No. 1 Zoeller, SE NE NE Section 6-6-5, rig; Cooper Drilling Co. and others No. 1 Richards, NE NE NW Section 35-7-4, set 10-inch casing at 78 feet, waiting; Denver Producing & Refining Co. No. 3 Villines, NW SE SW Section 36-7-4, set 10-inch casing at 68 feet.

Pontotoc County

Minton & Osborne No. 2 Powell, SE SE NE Section 35-5-7, Allen field, Pontotoc County, flowed 744 bbls. of 31-gravity oil in 24 hours from Gilcrease sand at 2,295-2,305 feet, total depth.

Sunray Oil Co. No. 41 Harjo, Section 26-5-8, was completed as a repressure well at 742 feet, total depth.

In the East Bebee pool, Sinclair Prairie Oil Co. No. 3 Starrett, NE NW NE Section 21-5-5, had Viola lime pay at 2,503-40 feet, total depth, was treated with 2,500 gallons of acid and pumped 75 bbls. of 38-gravity oil and 30 bbls. of water in 24 hours.

Magnolia Petroleum Co. No. 1 Lewis, SW cor. Section 19-2n-7, an old well in the Fitts field, was deepened from 4,002 feet to Viola lime at 4,100-4,350 feet, total depth, was acidized and pumped 30 bbls. of oil in 24 hours, recompleted.

United Gas Corp. of Massachusetts No. 2 Standridge, SW NW SE Section 25-5-4, an old Bebee well, was plugged back from 2,603 feet, acidized at 2,320-2,435 feet in Hunton lime and pumped 25 bbls. of 34-gravity oil in 24 hours, recompleted.

Reports of new activity: Manahan Oil Co. and others No. 1 Clark, SW SW SE Section 26-5-7, drilling below 1,670 feet; Grisso Royalty Co. No. 1 Peak, NE NE SE Section 35-5-7, location; Barbara Oil Co. No. 4 Mount, NW SW NW Section 36-5-7, building rig; Deep Rock Oil Corp. No. 1-A Bates, SW SW NW Section 36-5-7, location; same company's No. 1 Nelson, NW NW SW Section 36-5-7, location.

Oklahoma County

S. L. Clum and others No. 1 Hawkins, NW Section 15-12-3w, Oklahoma City field, Oklahoma County, had upper Simpson pay at 6,411 feet, was bottomed at 6,534 feet, was shot and pumped 40 bbls. of oil in 24 hours.

Davon Oil Co. No. 1-A Glidden, SW SW SE Section 13-11-3w, was drilling below 2,900 feet.

Seminole County

Wood Oil Co. No. 2 Tiger, NW NE SE Section 2-8-6, Bowlegs pool, Seminole County, had dolomite and Wilcox sand pay at 4,160-88 feet, total depth, was shot and pumped 432 bbls. of 40-gravity oil in 24 hours. Wilcox sand was topped at 4,167 feet.

Rogers & Rogers No. 1 Robinson, SW SW SE Section 36-8-7, pumped 30 bbls. of 37.4-gravity oil in 24 hours from Booch sand pay at 3,218-38 feet. after

(Continued on Page 70)

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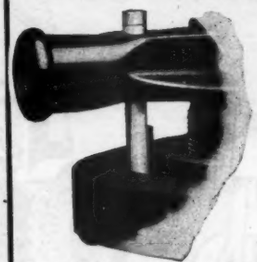

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U. S. Oil Equipment exports for the first 6 months of 1938 totalled $21,008,145, as compared with $16,453,998 for the same period of 1937—a 27.7% gain. These figures indicate a $42,000,000 export business in oil equipment, for 1938. As 1937 exceeded all former years, it becomes apparent that the oil equipment export market is growing rapidly.

This rapid growth is in line with the upward trend in oil production. For 60 years world oil production has shown a consistent annual increase of around 8%. American manufacturers of oil equipment are recognizing the growing importance of the export market, and shaping their plans for future expansion accordingly.

Particularly, at this time, should the markets of Latin America be cultivated. These countries have practically no oil equipment manufacturing and have become accustomed to look to this country for oil equipment. In Latin America the market is particularly active. Whereas the percentage gain for the entire world in the first 6 months of this year was 27.7%, the gain for Latin America was 58.3%, the 6 months' sales totalling $11,435,683.

Journal's Foreign Language Issue

We believe that the annual Foreign Language Issue of the Journal is the most valuable medium in existence for promoting the position of the U. S. oil equipment manufacturer in export markets. Nearly half of foreign oil equipment buyers do not speak English. Spanish will reach a majority of these non-English-speaking buyers. With the addition of French, practically every oil equipment buyer throughout the world is reached. Our Foreign Language Issue is the only issue of any oil journal through which all of these buyers may be addressed.

This year, this issue will place special emphasis on Latin America. To this end the Journal's editor-in-chief, Mr. C. O. Willson, has undertaken an extended trip through the Latin-American countries, during which he will gather first-hand information for this issue. His resulting articles will be published in English and Spanish. The two-language editorial section will be supplemented by feature articles in English only, which will cover all phases of world oil activities.

2,200 Foreign Circulation

A foreign circulation of 2,200 copies will be given to this issue. We maintain lists of all key oil men in foreign countries, and those not on our subscription list will receive a copy of this issue with our compliments.

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swabbing 62 bbls. of oil in 24 hours initially following shot.

New operations in Seminole County: Arch Oil Co No. 1 King, NE NE SW Section 4-5-6, moving in material; Hall-Troup & Moore No. 1 Bruner, NW SW SE Section 27-6-5, rig; Rogers & Rogers No. 3 Baxter, SE NW NW Section 36-7-5, drilling below 1,000 feet; Thompson Brothers No. 1-A Hemmerick, NE NW NW Section 34-7-6, rig; Harwitz, Jones & Soaper No. 1-A Harris, SE NW NW Section 22-10-7, rigging up rotary.

Creek County

Steinberger and others No. 1-A Kimble, NE Section 10-14-10, Creek County, had Dutcher sand at 2,563-90 feet, total depth 2,645 feet, and pumped 12 bbls. of 38-gravity oil daily.

Whitfield & Bailey No. 1 Harjo, NW SW SW Section 26-14-10, Tuskegee area, found Misener sand at 3,237-64½ feet, total depth, and swabbed and flowed 175 bbls. of 40-gravity oil daily.

E. R. Black and others No. 1 Anthis, NE NE SE Section 22-18-9, was abandoned at 2,652 feet, total depth.

Bruin Oil Co. No. 2-B Harjo, NW NE SW Section 27-14-10, was shot and pumped 56 bbls. of 40-gravity oil and 8 bbls. of water daily from Wilcox sand at 3,297-3,317 feet, total depth.

Sinclair Prairie Oil Co. No. 9 Oates, NE Section 14-19-9, Mannford district, found Cleveland sand at 1,182-1,230 feet, total depth, was shot and pumped 12 bbls. of oil in 24 hours.

L. B. Jackson No. 8 Wilson, C NW NE Section 34-18-8, Olive pool, had Red Fork sand at 2,596-2,625 feet, total depth 2,627 feet, was shot, swabbed 27 bbls. of 36-gravity oil in 24 hours and pumped 10 bbls. of oil in 24 hours.

Creek County first reports: Fierson and others No. 1 Kimble Estate, SW cor. Section 13-14-10, rigging up standard tools; Lease Investment Co. No. 1-B Miley, NW SE NW Section 28-14-10, drilling below 620 feet; Rudy & Neilson and others No. 1-A Ary, SE SE SW Section 31-16-7, total depth 600 feet, running 6-inch casing; Bryan Petroleum Co. No. 1 Shurmyer, NW SE NE Section 32-16-11. moving in machine; Sinclair Prairie Oil Co. No. 13-A Upton, CEL NE NE Section 4-16-12, drilling below 1,685 feet; Marble & Munn No. 1-A Parks, NE SE NE Section 12-17-7, drilling below 400 feet; J. E. Crosbie, Inc., No. 1 Baker, SE SE NW Section 20-17-9, drilling below 2,499 feet; Mazda Oil Co. No. 1-B McAdams. NE NW SE Section 36-17-9, drilling below 875 feet; McAdams & Thornton No. 1-A Fast, SE SE NE Section 36-17-9, shut down at 65 feet; L. H. Marrs and others No. 1 Wilson, NE cor. Section 34-18-8, drilling below 1,390 feet; Sand Springs Home No. 1-A Williams, NW SW NW Section 19-19-8, drilling below 840 feet.

Okmulgee County

Three producers and two failures were completed in Okmulgee County. J. Bryan Rebold No. 1 Freeman Jones, NW cor. Section 24-13-12, had sand at 1,252-97 feet, total depth, was shot and pumped 5 bbls. of oil in 24 hours.

J. P. Brady No. 4 Parks, CWL SE NE Section 9-15-11, Pollyanna area, found Bartlesville pay at 1,881-89 feet, total depth, and pumped 8 bbls. of oil in 24 hours after a shot.

J. R. Allen and others No. 2 Chambers, SE NE SE Section 25-16-11, northwestern Okmulgee County, found sand at 2,185-2,210 feet, was bottomed at 2,241 feet, and pumped 2 bbls. of oil in 24 hours after a shot.

Berry Brothers No. 1 Wright, NW SW NE Section 9-14-12, topped Wilcox sand at 2,720 feet, had a hole full of water and was abandoned at 2,727 feet.

Same operators' No. 1 Public Service, SW cor. Section 22-10-11, was dry and abandoned at 2,881 feet, total depth.

K. B. K. Production Co. No. 1 Harris, NW NE SE Section 19-13-12, was moving in machine. Keokuk Oil Co. No. 8 Bosen, SW NE NE Section 36-14-12, was a location. Sivick Oil Co. No. 6-A Larney, NW SW NW Section 28-15-14, had spudded.

Wagoner-Muskogee Counties

A. B. Chain No. 5 fee, C NW NW Section 16-16-15, Stone Bluff area, Wagoner County, had pay dirt at 1,245-53 feet, total depth, was shot and pumped 2 bbls. of oil in 24 hours.

Robinson Oil Co. No. 2 Allred, SE SE SW Section 18-13-16, Council Hill area, Muskogee County, had a hole full of water in Dutcher sand at 2,112-68 feet, total depth, and was abandoned.

J. R. Parks No. 5 Hildebrand, NW NW SE Section 17-14-19, Muskogee County, was drilling below 200 feet.

Osage County

Ray Branstetter No. 2 Osage, SE Section 29-22-11, Osage County, was shot in sand at 843-90 feet and completed for 8 bbls. of oil in 24 hours, pumping.

W. C. Elliott No. 1 Osage, NW Section 20-21-9, was dry and abandoned at 580 feet after water intrusion.

C. B. Houston No. 6 Osage, SW Section 28-23-9, had a slight showing of oil in sand at 339-45 feet, but was dry and abandoned at 437 feet, total depth.

New work in Osage County: Barnsdall Oil Co. No. 5 Osage, NW SE SW Section 23-24-10, location; Stevenson-Rock No. 2 Osage, SE NW SW Section 27-28-10, location; Norbla Oil Co. and others No. 3 Osage, NW SW NE Section 3-26-11, location.

Okfuskee County

O. H. Grimes No. 2 Harjo, SW Section 26-11-9, Okemah area, Okfuskee County, had sand at 1,483-95 feet, total depth, was shot and pumped 15 bbls. of 35-gravity oil in 24 hours.

Pawnee County

Johnson Oil Refining Co. No. 7 Beyl, NE Section 27-20-9, Keystone area, Pawnee County, had Red Fork sand at 2,041-67 feet, total depth 2,087 feet, was shot and pumped 48 bbls. of 37-gravity oil in 24 hours.

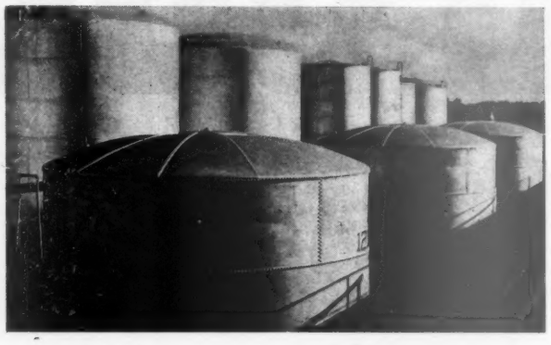
M. P. Thomas and others No. 2 Zackafoose, NE Section 23-20-9, was shot and pumped 48 bbls. of oil daily from Layton sand at 1,195-1,220 feet, total depth 1,225 feet.

Johnson Oil Refining Co. No. 12 Mann Estate, SW Section 23-20-7, an old well in the Terlton area, originally bottomed at 2,898 feet, plugged back to 2,581 feet, perforated casing and pumped 16 bbls. of oil daily.

Sinclair Prairie Oil Co. No. 13 Berger B, SW NE NE SE Section 17-21-8, an old well in the Cleveland district, was deepened from 1,736 feet to Skinner sand at 2,136-58 feet, total depth 2,162 feet, was shot and flowed 123 bbls. of oil daily.

Colonial Oil Co. No. 1 Woods, C NE NE Section 9-

(Continued on Page 75)



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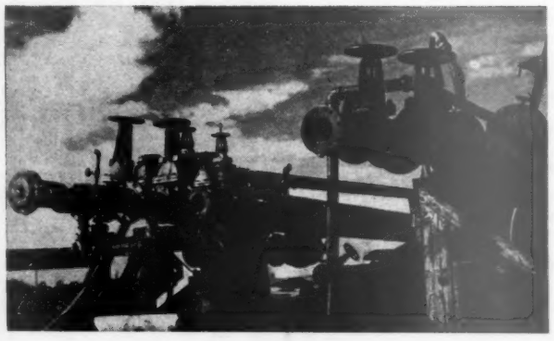

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West, Central and Panhandle Texas

By
D. H. STORMONT

Extend Goldsmith Half Mile North With 1,100-Bbl. Well

FORT WORTH, Tex., Oct. 31.—Extensions to the Goldsmith pool in Ector County and the Emma pool in Andrews County, accompanied by oil showings in several wildcat tests and pool outposts, centered the attention in the West Texas area over the week.

A half-mile north extension to Ector County's large Goldsmith pool was given by an outpost drilled by Herbert & Greene (formerly Herbert Oil Co.), in section 10-A, P.S.L. Survey. The well gauged 1,192 bbls. in 24 hours after being acidized with 5,000 gallons at 4,183 feet. The well flowed at the rate of 22 bbls. of oil per hour after a first acid treatment of 1,000 gallons. Eastland Oil Co. has staked a south offset to the extensioner.

Another closely-watched Ector test, drilled by Bert Fields on acreage owned by the Owenwood Oil Co., is cleaning out after having been acidized with 2,000 gallons. It is in Section 6-44, T.&P. Survey, 3 miles northwest of the Harper pool. Total depth is 4,505 feet.

Andrews County's Emma pool received a half-mile extension northward when Superior Oil Co. No. 1 University in Section 35, Block 10, University Lands Survey, flowed an unestimated amount of oil after a two-stage acid treatment at a total depth of 4,227 feet. Also in Andrews County, H. C. Wheeler No. 1 White & Shelton, 4 miles west of the Means area, found oil at 4,560-68 feet, and an increase at 4,580-4,600 feet. Test is drilling below 4,600 feet. Another Andrews County wildcat, one-half mile south of the Deep Rock area, J. W. Tripplehorn No. 1 Thornberry, Section 2, Block A-42, P.S.L. Survey, is drilling below 4,394 feet making an estimated 750,000 feet of gas.

A wildcat in Reagan County gave indications of production when it found oil showings from 2,430 feet to 2,640 feet. Casing will be run and the showing tested. It is John W. Emch No. 1 T.&P. Land Trust, Section 203, Block 1, T.&P. Survey.

In Crane County Aloco Oil Co. No. 1-A Tubbs, a mile southeast of the Tubbs area, is flowing an estimated 150 bbls. of oil per day as operators are preparing to again clean out the well which is showing a considerable amount of mud. Total depth is 4,504 feet.

North Basin Area

Snowden & McSweeney No. 1 Slaughter, one-half mile northeast outpost to the southeast edge of the Slaughter pool of Hockley County, has been plugged back to 5,084 feet from 5,094 feet, and operators are preparing to test an oil showing at that level. Two and one-half miles northeast of the area, Texas Co. No. 1-B Mallett, which has been in the testing stages for several weeks, has been drilled deeper to 5,005 feet with pay reported to have been topped at 4,965 feet. The test has about 200 feet of oil in the hole.

An important wildcat in Yoakum County, Shell Petroleum Corp. No. 1 Ruyts, 1¼ miles southeast of the Bennett area, is drilling below 4,405 feet after having been placed about 32 feet higher structurally on top of the anhydrite than the discovery well in the Bennett area. Test is located in Section 743.

WEST CENTRAL TEXAS

An increase in activity in Jack County and the possibility of a new producing area in Shackleford County marked the week's developments in the West Central Texas area.

Jack County showed considerable stimulation with the beginning of several new shallow and deep tests. Harry Lippitt of New York is planning to start his 2,500-foot cable tool test on the Sol Franklin 45-acre tract out of the A. Ferguson Survey, Abstract 215. Nearest production to this test is 16 miles northwest in the Bryson pool. Hanlon-Buchanon, Inc., was drilling below 200 feet in No. 1 W. B. Munsen in the T.C.R. Survey, Abstract 2046. This test is 17 miles northwest of Jacksboro in the Jermyn area. The same operators are also drilling in the 1,250-foot area in the J. W. Williams Survey, Abstract 877, Block 5. This test is No. 1 J. L. King and is below 1,200 feet. Webb Gregg is preparing for his shallow test on the Shawver tract in the M.E.P.&P. Survey, Abstract 431. The well is contracted to 650 feet.

Indications of a new oil pool in Shackleford County were seen when a test drilled by R. H. Gordon and Frank Pethybridge in Section 38, L.A.L. Survey, in the southern part of the county, found oil at 4,260-83 feet. After bailing oil from the hole, operators shut down for a test. Best oil and gas showing was found in the last 5 feet of the hole with gas amounting to about 500,000 feet.

South of the discovery well in the Chittenden area of Jones County, Humble Oil & Refining Co. No. 1 Chittenden is cleaning out after an eight-quart shot in sand at 3,010-22 feet. The well headed following the shot, then bridged. Before the shot it had swabbed 30 bbls. of oil in six hours. Pay is at 3,010-19 feet, with bottom at 3,022 feet. A possible extension to the Lewis pool, also in Jones County, was seen when Danciger Oil & Refining Co. No. 3 Roberts, most northeasterly well in the area, filled with 1,000 feet of oil from sand at 1,913-33 feet. Location is in Section 37.

Hopes for extending the Pardue pool of Haskell County were dimmed when Forest Development Corp. No. 3 Pardue recovered 510 feet of salt water on a drill stem test from 2,346-77 feet, total depth.

The new-horizon discovery in Young County's old Oil City pool, Mid-Continent Petroleum Corp. No. 5 Owens, is indicating a good producer as it began flowing after being drilled in at 2,412 feet. The old pool's production was from the 2,100-foot level.

WEST TEXAS COMPLETIONS

(24-hour tests)

Cochran County

Magnolia Petroleum Co. No. 1 D. Wright, dry and abandoned at 5,045 feet.

Crane County

Gulf Oil Corp. No. 181 McElroy, 2,685-2,895 feet, 1,365 bbls. The Texas Co. No. 42 King, dry and abandoned at 2,636 feet.

Ector County

Arkansas Fuel Oil Co. No. 4 J. L. Johnson, 4,106-4,217 feet, 736 bbls. Arrow Drilling Co. No. 4 H. C. Foster, 4,253-93 feet, 1,034 bbls. Devonian Oil Co. No. 8-F Scarbauer, 4,165-95 feet, 863 bbls. Gulf Oil Corp. No. 129 Goldsmith, 4,130-4,205 feet, 2,768 bbls. Gulf Oil Corp. No. 4 J. E. Parker, 4,015-4,250 feet, 51 bbls. Landreth Production Co. No. 2-A B. H. Blakely, 4,150-4,210 feet, 1,057 bbls. Octogon Oil Co. No. 1 E. M. Woods, 4,130-4,328 feet, 527 bbls. Shell Petroleum Corp. No. 16 E. F. Cowden, 4,058-4,208 feet, 843 bbls. Shell Petroleum Corp. No. 2-E University, 3,460-3,645 feet, 1,390 bbls. L. H. Wentz No. 8 Paul Moss, 3,992-4,485 feet, 137 bbls.; No. 9 Paul Moss, 4,025-4,150 feet, 2,405 bbls.

Gaines County

Atlantic Refining Co. No. 1 A. J. and J. J. Parker, dry and abandoned at 5,290 feet. Continental Oil Co. No. 2-49 A. L. Wasson, 4,890-4,988 feet, 1,018 bbls.

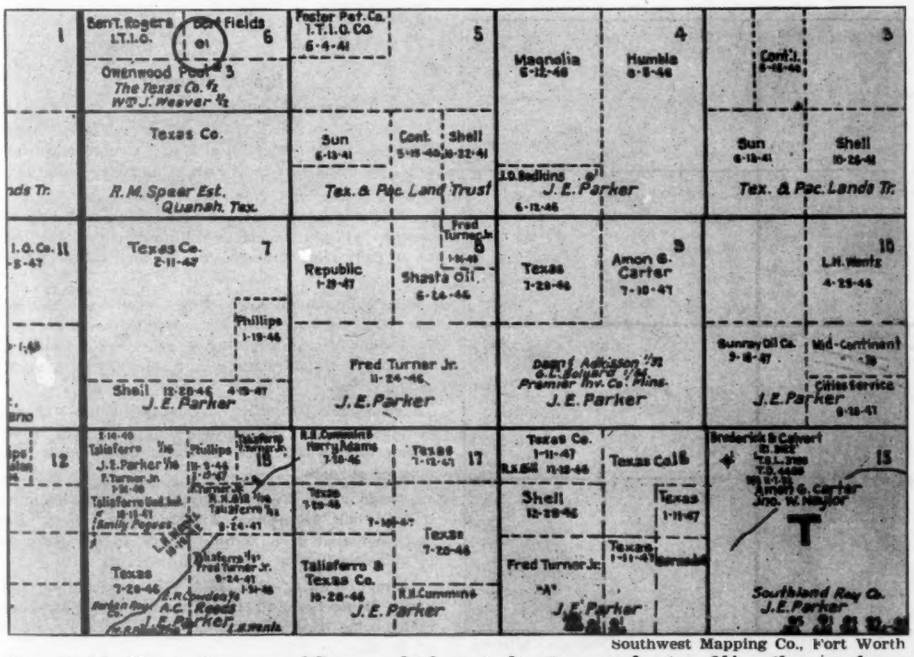
Howard County

Eastland Oil Co. No. 3-A T.&P. Land, 2,600-2,798 feet, 812 bbls. Lockhart No. 3 Heusinger, 2,550-2,812 feet, 796 bbls. Lloyd Noble No. 1 Hyman Estate, 2,875-3,148 feet, 462 bbls.

Pecos County

Helmerich & Payne No. 1 Dow Puckett, dry and

(Continued on Page 74)



Southwest Mapping Co., Fort Worth

Bert Fields No. 1 Owenwood-Spear which is indicating production 3½ miles northwest of the Harper pool in Ector County

Kansas Developments

By
DAL DALRYMPLE

Extend Cunningham Oil Area to Southwest in Pratt County

Although general field operations in Kansas are considerably less than in 1937, the number of discoveries and extensions made this year compare favorably with those of the preceding 12-month period. Opening of a pool in Russell County and extensions in other areas featured field activity the past week.

A producing area 12 miles south of Russell in the county of that name was opened at Western Kansas Oil & Refining Corp. No. 1 Schneider, NE NE NW Section 35-15-14w. Arbuckle formation was topped at 3,346 feet and saturation was cored from 3,349-52 feet, total depth. Seven-inch casing was set at 3,347 feet, and oil rose 2,000 feet in the hole overnight after drilling the plug. Tubing was being run preparatory to acidizing. Location is 1½ miles west of the Trapp field, the nearest production, and is on an Ohio Oil Co. farmout. Offset tracts are owned by Cities Service Oil Co. and Phillips Petroleum Co.

In Barton County, a wildcat 7 miles northwest of Hoisington gave promise of opening a producing area. It was J. C. Shaffer, Inc. No. 1 Barrett, SW SW NW Section 36-16-14w, on a Lario Oil & Gas Co. farmout. Top of Arbuckle formation was found at 3,441 feet and some saturation was found in a core from 3,441-46 feet, and good saturation was recovered in a core at 3,446-50 feet, total depth. Seven-inch casing was set on top of the Arbuckle and operators were moving in standard tools preparatory to drilling in.

The Silica District

Extension of the Silica field one-half mile to the northeast in Rice County was indicated at Stanolind Oil & Gas Co. No. 1 Heine, SE cor. Section 21-19-10w. Arbuckle dolomite was topped at 3,318 feet and cored to 3,323 feet, total depth, with some saturation in the core. Seven-inch casing was set on top of the Arbuckle preparatory to drilling in.

Producing limits of the Habiger pool, northwestern Rice County, were due to be extended one-half mile southwest at Frank H. Hollow and Bridgeport Machine Co. No. 1 Beck, SE SE SW Section 6-18-10w. Lansing lime was topped at 2,955 feet and saturation was found in cuttings at 3,160-65 feet, total depth in the lime. Operators set 7-inch casing at 3,160 feet before drilling in with standard tools.

The Pratt County sector of the Cunningham pool was extended one-half mile southwest at Skelly Oil Co. No. 2 Moore, CSL SW Section 25-27-11w. It made 24-hour potential of 825 bbls. of oil from Lansing-Kansas City lime at total depth of 3,484 feet. Lime was topped at 3,438 feet and oil rose 1,000 feet in the hole in seven hours. It was acidized with 7,000 gallons. This extension makes the pool 2 miles wide, with the eastern part in Kingman County.

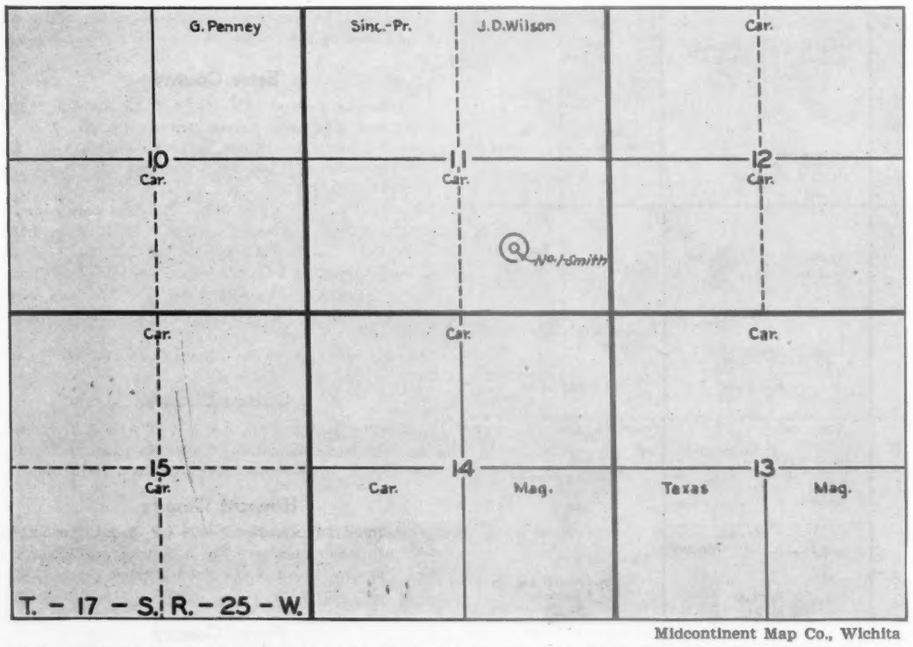
The South Trapp pool in Barton County was extended one-fourth mile northward at Shell Petroleum Corp. No. 1-B Bitter, SE cor. Section 6-16-13w. Oil rose 2,950 feet in the hole in 3½ hours and the crew was swabbing. It was bottomed at 3,353 feet in Arbuckle dolomite.

In Kingman County

Jock Garden and Bunte Brothers No. 1 Shepherd, SE cor. Section 10-27-10w, wildcat discovery well 4½ miles northeast of the Cunningham pool in Kingman County, was reported to have flowed 50 bbls. of oil in 45 minutes while running tubing, and on a preliminary test it was said to have averaged 4 bbls. of oil an hour for seven hours, and operators were preparing for a 24-hour test to determine potential possibilities. Originally drilled to 4,529 feet, total depth, in dry Arbuckle lime, it was plugged back to 3,609 feet and was producing from a formation variously described as Lansing lime and Tonganoxie sand.

Work was underway at a wildcat 12 miles northwest of Ness City and 6 miles northeast of the Aldrich pool in Ness County. It was C. L. Carlock and others No. 1 Smith. C SW SE Section 11-17-25w, on a 1,600-acre farmout from Carter Oil Co. Contract depth is 4,800 feet, with Fort Scott lime, basal Pennsylvanian conglomerate and Mississippian dolomite as the objectives. Location is on the northeast-southwest trending Aldrich anticline.

New outlying tests reported the past week include E. B. Shawver and Darby Petroleum Co. No. 1 Peavey, CN half NE Section 24-11-18w. 1½ miles south of the South Burnett pool in Ellis County; George Ballou No. 1 Mudd, NE cor. Section 6-15-14w, one-half mile south of the East Big Creek pool, Russell County; Western Kansas Oil & Refining Corp. No. 11 Keil, NE NW NW Section 6-15-13w, one-half mile southwest of the Hall pool, Russell County.



Midcontinent Map Co., Wichita

C. L. Carlock has started work at No. 1 Smith, Section 11-17-25w, wildcat on Carter Oil Co. farmout 6 miles northeast of the Aldrich pool, Ness County

Estimated Daily Production

Estimated daily production for Kansas for the week ending October 29, and for the preceding week was as follows:

	Barrels	
	Oct. 29	Oct. 22
Oxford City	1,150	1,125
Burrton	9,500	9,550
Ritz-Canton	4,225	4,200
Graber	3,750	3,250
Hollow-Nikkel	2,825	2,850
Lerado	725	825
Voshell	1,850	1,875
Wellington	2,250	2,325
Ellsworth County:		
Lorraine	2,075	2,075
Other pools	1,365	1,287
Rice-Barton counties:		
Bloomer	2,000	1,775
Chase	4,450	3,975
Geneseo	3,900	3,400
Raymond	825	675
Silica	10,700	10,025
South Silica	2,025	1,700
Keesling	925	700
Wherry	3,075	3,100
Miscellaneous Barton	6,350	6,515
Miscellaneous Rice	6,025	5,695
Russell County	22,360	20,675
Sedgwick County	3,800	3,875
Ellis County:		
Bemis	5,450	5,075
Miscellaneous	3,200	3,055
Kingman County	630	545
Stafford County	4,570	4,575
Greenwood County	9,500	9,750
Butler County	19,225	18,775
Other fields	18,350	20,503
Total Kansas	157,075	153,750

Barton County

Western Kansas Oil & Refining Co. No. 3 Linsner, SE SW SE Section 3-17-13w, Ainsworth pool, Barton County, was treated with acid and completed at total depth of 3,464 feet in Arbuckle lime for potential of 1,175 bbls. of oil.

Westgate & Greenland No. 1 Seyfert, SW NW NE Section 3-17-13w, made initial potential of 434 bbls. of oil daily from Arbuckle lime at total depth of 3,395 feet.

Shell Petroleum Corp. No. 5 Stettinger, SE Section 1-16-14w, Barton County sector of the Trapp field, was completed for potential of 2,640 bbls. of oil after acidization. Total depth was 3,345 feet in Arbuckle lime.

Same operator's No. 8-B Schneider, SE NW NW Section 1-16-14w, was bottomed at 3,315 feet in Arbuckle lime, was acidized and made potential of 2,176 bbls. of oil daily.

Stanolind Oil & Gas Co. No. 12-A William Panning, CNL N half SE Section 2-20-11w, Silica field, made daily potential of 1,871 bbls. of oil. It was bottomed in Arbuckle lime at 3,282 feet.

Same company's No. 13-A William Panning, CSL S half SE Section 2-20-11w, at total depth of 3,278 feet in Arbuckle lime, made initial potential of 2,166 bbls. of oil daily.

Same company's No. 10 Kowalsky, C N half N half NE Section 11-20-11w, had initial potential rating of

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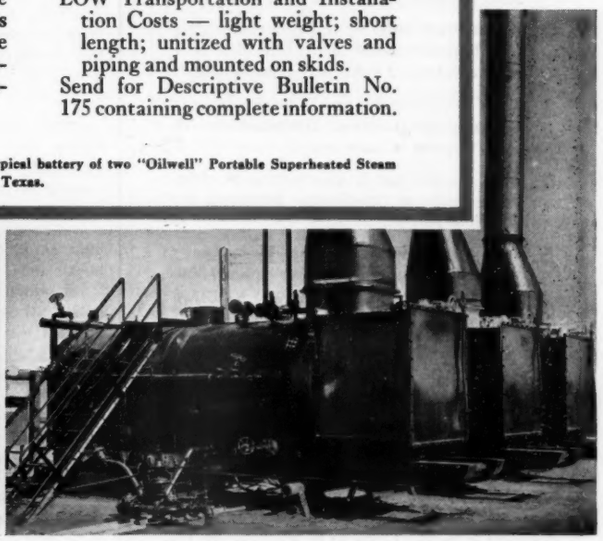

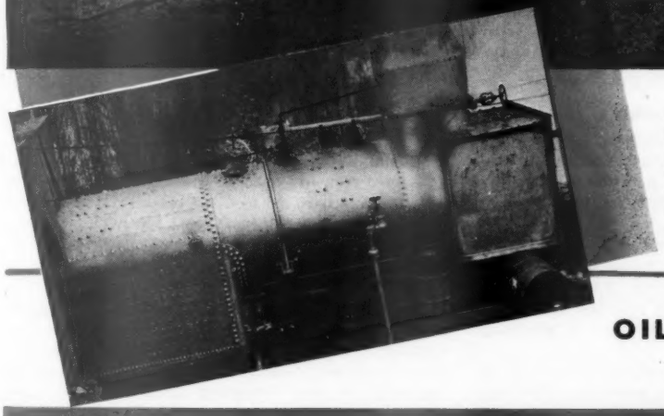

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(Above)
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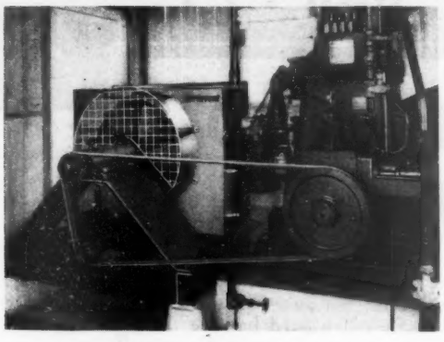

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SUBSCRIPTION?

2,012 bbls. of oil from total depth of 3,287 feet in Arbuckle lime.

New work in Barton County: Stanolind Oil & Gas Co. No. 14 Panning, C N half N half SE Section 3-20-11w, rigging up rotary; Indian Territory Illuminating Oil Co. No. 1 Peter B, NW cor. Section 12-20-11w, cellar; Lario Oil & Gas Co. and Atlantic Refining Co. No. 3-A Zahorsky, SW NW NE Section 23-20-11w, moving in material.

Russell County

Skelly Oil Co. No. 4 Opdycke, NE NE NW Section 32-14-13w, Hall pool, Russell County, was acidized and completed at 2,904 feet, total depth, in Lansing-Kansas City lime. It was rated initially at 1,608 bbls. of oil daily.

Coralena Oil Co. No. 1 Phinney, SE SE NE Section 30-14-13w, had initial potential rating of 1,647 bbls. of oil from Lansing lime at 2,962 feet, total depth.

Texon Oil Co. No. 7 Letsch, C E half SW Section 26-14-13w, Letsch pool, was treated with acid and made potential of 2,238 bbls. of oil daily. Production was from Lansing lime at 2,856 feet, total depth.

Stanolind Oil & Gas Co. No. 1-A Krug, NE cor. Section 27-14-14w, Gurney pool, made daily potential of 1,109 bbls. of oil after acid treatment. It was bottomed at 2,988 feet in Lansing lime.

Skelly Oil Co. No. 2 Colliver, CNL SE Section 28-14-13w, Letsch pool, at total depth of 2,903 feet in Lansing lime, was acidized and made potential of 1,338 bbls. of oil daily.

Sinclair Prairie Oil Co. No. 3 Rogg, SW SW SE section 29-14-13w, Hall pool, made initial potential of 670 bbls. of oil daily from Lansing lime at 2,908 feet, total depth. It was acidized.

First reports of new work in Russell County: Texon Oil Co. No. 9 Letsch, SW SE SW Section 26-14-13w, rigging up rotary; Darby Petroleum Corp. No. 10 Michaelis, NW SW SE Section 36-15-14w, rotary rig; Shell Petroleum Corp. No. 3 Dumler, SW SE SW Section 36-15-14w, drilling below 100 feet.

Rice County

Shell Petroleum Corp. No. 10 Zajic, SW SW NE Section 13-18-8w, Geneseo field, Rice County, was completed at 3,227 feet, total depth, in Arbuckle lime, making potential of 2,733 bbls. of oil daily.

Same company's No. 3 McFarland, SE NE NW Section 7-20-9w, Chase pool, was rated potentially at 137 bbls. of oil daily from 3,087 feet, total depth, in Arbuckle lime.

Stanolind Oil & Gas Co. No. 6 Stueckeman, CNL N half SE Section 11-20-11w, Silica field, was bottomed at 3,284 feet in Arbuckle lime and made initial potential of 2,145 bbls. of oil.

Cities Service Oil Co. No. 2 Zajic, NE NW SE Section 11-18-8w, Geneseo field, earned potential rating of 554 bbls. of oil from Arbuckle lime at 3,267 feet, total depth.

Continental Oil Co. and others No. 7 Wood, NE SW SE Section 12-18-8w, was a cellar. Same operators' No. 4 Williams, SW NE NW Section 13-18-8w, was a cellar. Continental Oil Co. No. 3 Gum, NW NW SE Section 34-19-10w, was a rig.

Ellsworth County

Spencer & Yarnell No. 2-B Gemeinhardt, SW cor. Section 31-17-10w, in the Ellsworth County sector of the Bloomer field, made initial potential of 1,731 bbls. of oil from Arbuckle lime at 3,252 feet, total depth.

McPherson County

Jay Kornfeld & Aylward Production Co. No. 1 Becker, NE SE NE Section 36-19-2w, Ritz-Canton field, McPherson County, made initial potential of 134 bbls. of oil daily at total depth of 2,980 feet in Mississippi chat.

Continental Oil Co. and others No. 9 Goering, SW NE SW Section 29-21-1w, was a location.

Stafford County

J. E. Crosbie, Inc., No. 4 Johnson, SE NW SW Section 24-23-11w, Zenith pool, Stafford County, was completed at 3,822 feet in Misener sand. It had initial production of 1,089 bbls. of oil in 24 hours, and after bottom-hole pressure computations were completed was assigned a daily potential of 1,621 bbls. of oil.

Pure Oil Co. No. 10 Krey, NE SW SE Section 14-24-11w, produced 1,102 bbls. of oil in 24 hours initially, and was completed for increased potential after bottom-hole pressure computations. It was bottomed at 3,816 feet in Misener sand.

Derby Oil Co. No. 2 McComb, NW NE NW Section 24-24-11w, was a cellar.

Cowley County

A failure was recorded on the west side of production in the Weathered pool, Cowley County. It was Texas Co. No. 2 Beeman, SE SW SW Section 33-31-3e, one location west of the proven area. It found Arbuckle lime at 3,310 feet, water intruded and it was abandoned at 3,325 feet, total depth.

Same company's No. 2 Wilson, NW SE NW Section 4-32-3e, Weathered pool, was bottomed at 3,238 feet in Arbuckle lime and made initial potential of 597 bbls. of oil daily.

Earl F. Wakefield No. 2 Hanna, SE NE SW Section 2-31-4, South David pool, was completed at total depth of 2,970 feet for 83 bbls. of oil daily.

Jones Brothers Drilling Co. and others No. 1 Chance, NW SW NE Section 21-32-5, Frog Hollow area, had initial potential rating of 271 bbls. of oil daily from Burbank sand at 3,054 feet, total depth.

Earl F. Wakefield No. 2 David, SW NW SE Section 2-31-4, was a location. Smith, Pryor & Lockhart No. 1-A Kingsbury, SW SE SW Section 4-33-6, was a cellar.

Additional New Work

Panhandle Eastern Pipe Line Co. No. 1 Parsons, C N half SW Section 25-30-37w, a wildcat in the gas area of southern Grant County, was a location.

In Butler County, Harry Gore No. 1 Cannon, SW NE NE Section 28-26-7, was drilling below 1,605 feet.

In Marion County, Kaufman No. 1 Meyer, NE NW NE Section 27-17-4, was rigging up.

In Woodson County, D. S. Alter No. 1 Snattinger, SW SW SE Section 3-26-14, wildcat, was running 8-inch casing at 800 feet.

In Harvey County, Claude Drilling Co. No. 1 Day, SE SE NW Section 19-23-3w, was waiting on cement at 248 feet.

West Texas Fields

(Continued from Page 71)

abandoned at 3,502 feet. Union Oil & Mining Co. No. 2-D Magnolia, abandoned location.

Upton County

W. H. Burleson No. 1 Rhoda E. Long, dry and abandoned at 2,130 feet. Cardinal Oil Co. No. 5 Starnes-Fower, 2,251-92 feet, 202 bbls. Shell Petroleum Corp. No. 3 Rogers, 2,576-2,640 feet, 165 bbls. Sylvia Oil Co. No. 8 Baker, 2,290-2,363 feet, 1,216 bbls.

Ward County

Gulf Oil Corp. No. 113 Hutchins, 2,576-2,750 feet, 618 bbls. Luse & Ice No. 2 Brictson, 1,920-2,102 feet, 504 bbls.; No. 3 Brictson, 2,057-2,100 feet, 71 bbls. West Texas Oil & Realty Co. No. 4-C University, 2,435-2,670 feet, 3,559 bbls. Western Well Service No. 2-E Johnson, 1,932-2,045 feet, 367 bbls.; No. 5-E Johnson, 1,922-2,083 feet, 325 bbls.; No. 1 Reynolds, dry and abandoned at 2,351 feet.

Winkler County

Humble Oil & Refining Co. No. 15-D J. B. Walton, 2,796-2,990 feet, 644 bbls. Magnolia Petroleum Co. No. 185 Walton, 3,196-3,250 feet, 553 bbls.; No. 189 Walton, 2,854-2,919 feet, 1,763 bbls.; No. 190 Walton, 2,860-2,920 feet, 936 bbls.

Yoakum County

Cascade Petroleum Co. No. 1-A Bennett, 5,050-5,270 feet, 1,072 bbls. Continental Oil Co. No. 1 Sue Stevens, 4,950-5,047 feet, 670 bbls. Honolulu & Cascade No. 4-628 R. Bennett, 5,120-5,255 feet, 1,699 bbls. Magnolia Petroleum Co. No. 4 Bennett, 5,153-5,240 feet, 1,299 bbls. J. W. Murchison No. 3 Willard, 4,828-5,146 feet, 247 bbls. Toddie L. Wynne, Trustee, No. 4 Fairman, 4,920-5,226 feet, 238 bbls.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Brown County

Delmarva Oil Corp. No. 1 J. R. Shelton, dry and abandoned at 642 feet. G. P. Mitcham No. 1 Newton, 1,231-60 feet, 45 bbls.

Callahan County

Hal Hughes No. 1 C. B. Straley, 3,365-85 feet, 1,500,000 feet of gas.

Coleman County

Hoffman-Page No. 1 T. A. Drake, dry and abandoned at 3,146 feet.

Eastland County

J. L. Reeves No. 2-B L. C. Downtain, 1,489-1,501 feet, 15 bbls.

Fisher County

General Crude No. 1 R. Morrow, abandoned location.

Jones County

Condor Petroleum Co. No. 18 H. Sayles, Jr., 1,966-75 feet, 385 bbls. Fain-McGaha Oil Corp. No. 1 J. S. Milsap, dry and abandoned at 2,151 feet. R. B. Farris No. 1 Donohoe, dry and abandoned at 2,213 feet. Iron Mountain and Humble Oil Co. No. 3 Peterson, 3,229-39 feet, 700 bbls. Petroleum Production Co. No. 9 Milsap, 1,925-46 feet, 265 bbls. Sinclair Prairie Oil Co. No. 1 Williams, dry and abandoned at 3,390 feet.

Shackelford County

Danciger Oil & Refining Co. No. 1 Manoker, abandoned location. Iron Mountain Oil Co. No. 3 D. A. Ivey, 3,207-17 feet, 680 bbls. Pemeta Oil Co. No. 15 L. O. McCasland, dry and abandoned at 1,002 feet.

Taylor County

Charter-Forester No. 2 Frederickson, 2,332-80 feet, 188 bbls. J. W. Knowles, Trustee, No. 1 Bowles Estate, dry and abandoned at 2,178 feet.

PANHANDLE FIELD COMPLETIONS

(24-hour tests)

Carson County

Magnolia Petroleum Co. No. 45 fee 244, dry and abandoned at 2,970 feet.

Magnolia Petroleum Co. No. 46 fee (244), 2,924-37 feet, 180 bbls.

Hutchinson County

Phillips Petroleum Co. No. 10 Perkins, 2,962-3,012 feet, 319 bbls. Stanolind Oil & Gas Co. No. 12 Haile B, 2,985-3,012 feet, 337 bbls.; No. 6 Watkins B, 2,795-2,855 feet, 325 bbls.

Gulf Oil Corp. No. 86 Dial, 3,005-3,107 feet, 276 bbls. Gibson No. 1 P. H. Jamieson, 2,905-45 feet, 371 bbls. Huber Petroleum Co. No. 4 J. F. Weatherly, 2,500-2,897 feet, 110,188,000 feet gas. Midstates Oil No. 21 Whittenburg, 2,937-71 feet, 760 bbls. Phillips Petroleum Co. No. 3 R. C. Kay, 3,168-3,225 feet, 354 bbls.; No. 8 R. E. Thompson, 3,144-65 feet, 436 bbls. Seaboard Oil Co. No. 8 Whittenburg, 2,640-2,707 feet, 435 bbls. Stansylvania Oil Co. No. 3 Belle Wisdom, 3,089-3,105 feet, 710 bbls.

Gray County

Continental Oil Co. No. 2 M. K. Vrown, 3,210-3,300 feet, 499 bbls. Kewanee Oil Co. No. 9 B. McKinney, 3,155-3,265 feet, 395 bbls. Magnolia Petroleum Co. No. 20 Merton B, 3,135-3,255 feet, 253 bbls. Wilma Petroleum Co. No. 2 McKinney, 3,256-76 feet, 658 bbls.

Moore County

Phillips Petroleum Co. No. 1 Loula B. Powell, 2,926-3,180 feet, 53,044,000 feet gas.

Oklahoma Fields

(Continued from Page 70)

20-6, was rigging up standard tools. Magnolia Petroleum Co. No. 6 Lesher, SE SE NE Section 21-20-6, an old well originally bottomed at 3,133 feet, was drilling deeper below 3,270 feet. L. & L. Development Co. No. 1 Siles, SE SE NW Section 5-20-9, was drilling below 850 feet.

Southwestern Oklahoma

In Comanche County, Wichita Oils, Inc., No. 9 Noble, SE SE NW Section 28-2n-10w, Lawton pool, had Pontotoc sand series at 450-70 feet, total depth 476 feet, and pumped 4 bbls. of oil daily.

In Stephens County, W. J. McAllister and others No. 3 Wade, CSL SW NE Section 11-2s-8w, Empire pool, had sand at 2,058-67 feet, total depth 2,068 feet, and pumped 75 bbls. of 39-gravity oil in 24 hours.

In Jackson County, Fish & Fish No. 1 Oneal, SW NW SW Section 5-1s-19w, Tipton pool, was bottomed at 2,580 feet, was shot and pumped 63 bbls. of 41.2-gravity oil in 19 hours from Cisco formation.

More First Reports

In Tulsa County, Fortner and others No. 2 Quinn, NW NE SE Section 27-19-10, was shut down for water; F. O. Brown No. 1-A Brown, SW NE NW Section 24-19-10, was drilling below 1,160 feet; Kewanee Oil & Gas Co. No. 16 Stewart, C SE NW Section 4-16-13, was drilling below 1,200 feet.

In Payne County, Gulf Petroleum Corp. No. 3 George, SW NW NW Section 4-19-5, was drilling with rotary below 3,060 feet.

Phillips Petroleum Co. No. 1 Ulery, NE SE NE Section 34-6-10w, Cement pool, Caddo County, was a location.

Lewis Sikes No. 10 Mulkey, NW NE NE Section 16-1s-8w, Rainola pool, Stephens County, was drilling with rotary below 2,000 feet.

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THE OIL AND GAS JOURNAL

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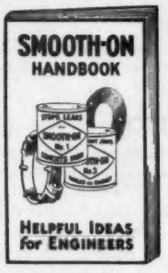

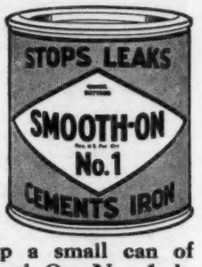

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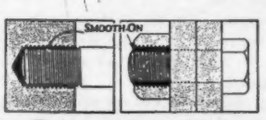

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1938 IS A SANTA FE YEAR

Rocky Mountain Area

By
T. R. INGRAM

Colorado Deep Hole Record; New Gusher in Lance Creek

DENVER, Colo., Oct. 31.—New depth record for Colorado was established by the Divide Creek test of the Continental, California, and Amerada companies, which is drilling at 9,083 feet. Continental Oil Co. will complete its Cottonwood wildcat with cable tools.

The Ohio Oil Co.-California Co. No. 3-A Kyle, Big Medicine Bow, Wyoming, was recompleted in the Sundance for 70 bbls. after testing all horizons to the granite. The Ohio Oil Co. No. 11 Lamb, in the Lance Creek field, made 1,680 bbls. from the Leo sand the first 24 hours. A south extension of Lance Creek is imminent in the Continental Oil Co. No. 1-B Dielman. The Osage field was extended one-fourth of a mile southwest in Updike Brothers No. 1 Government, which will pump 30 bbls.

Winter weather held up Montana operations and no wells were completed and only two new operations were started.

NEW MEXICO

Work has started at the second test in the new pool recently opened west of the Eunice field in Lea County, according to field reports. It is F. C. Wilson and others No. 2 State, 660 feet from the north and 1,980 feet from the east lines of Section 7-21-35. The operators' No. 1 State, discovery well, swabbed 75 bbls. of oil in six hours on last report and was shut in for pipe line outlet. It was bottomed at 3,813 feet.

The past week was one of the dullest of the year in southeastern New Mexico, only five new oil producers and a failure being completed in Lea County, in addition to recompletion of an old well. They were:

Texas Co. No. 5 Fristoe, NW SE SE Section 3-25s-37e, was completed at total depth of 3,480 feet. Top of pay was 3,396 feet and the well flowed 168 bbls. of oil in four hours through 2-inch tubing set at 3,354 feet.

Texas Co. No. 1-N State, C SW SW Section 30-17s-35e, reached total depth of 4,850 feet, was plugged back to 4,689 feet and flowed 54 bbls. in 12 hours, with very little gas.

Shell Petroleum Corp. No. 1-U State, C NE NW Section 3-18s-35e, total depth 4,900 feet, was swabbed down and acidized with 1,500 gallons but salt water intruded and it was abandoned.

Continental Oil Co. No. 7 Reed B-23, NE NW SE Section 23-20s-36e, total depth 3,843 feet, topped pay at 3,770 feet and flowed 48 bbls. hourly through three-quarters inch choke on 2-inch tubing set at 3,840 feet. Gas gauged 500,000 feet per day.

Ohio Oil Co. No. 2 Turner, C NW SE Section 32-21s-37e, an old well drilled deeper, was recompleted at a total depth of 3,780 feet. Initial production was 160 bbls. daily through one-half inch choke on 2-inch tubing set at 3,771 feet.

Texas Co. No. 2 Edith Fanning, C NW NE Section 4-24s-37e, was bottomed at 3,605 feet, with top of pay at 3,568 feet, and flowed 46 bbls. daily through open 2-inch tubing set at 3,525 feet. Gas gauged 500,000 feet per day.

Anderson & Prichard No. 3 Wells, C NE NW Section 5-25s-37e, total depth 3,567 feet, had pay at 3,450 feet and flowed 216 bbls. per day naturally, with 200,000 feet of gas.

Lea County

Amerada Pet. Co. No. 1 Johnson, C NW SW Sec. 27-24-37. Drlg. 1,788 ft.
Amerada Pet. Co. No. 5-VA State, C NW NW Sec. 22-17-35. W.O.C. 1,766 ft.
Aloco Oil Co. No. 1 Carson, C SW SE Sec. 28-21-37. Fsg. 815 ft.
Anderson & Prichard No. 4 Carlson-Harrison, NE SE NE Sec. 27-25-37. Drlg. 3,095 ft.
Anderson & Prichard No. 3 Stuart, C NW NW Sec. 9-25-37. W.O.C. 3,285 ft.
Cities Service No. 1-L State, C SE SW Sec. 15-17-35. Drlg. 1,752 ft.
Continental Oil Co. No. 3 Britt B-15, C W½ NW SW Sec. 15-20-37. Drlg. 1,865 ft.
Continental Oil Co. No. 1 Hawk B-6, NW NW SE Sec. 6-21-37. Loc.
Continental Oil Co. No. 1 Howe A-5, C SW NE Sec. 5-21-38. Spud.
Continental Oil Co. No. 1 Lockhart B-13, NW NW NW Sec. 13-21-36. Drlg. 2,685 ft.
Continental Oil Co. No. 2 Lockhart B-1, C SE NW Sec. 1-22-36. Drlg. plug 1,220 ft.
Continental Oil Co. No. 4 Lockhart B-31, S½ SE SE Sec. 31-21-36. Drlg. 1,870 ft.
Continental Oil Co. No. 2 Meyer B-31, C NE SW Sec 31-20-38. C.&P.
Continental Oil Co. No. 4 Meyer B-18, C E½ SE NW Sec. 18-21-36. Drlg. 1,990 ft.
Continental Oil Co. No. 1 State 1-7, NE NW NE Sec. 7-17-34. T.D. 4,895 ft.; C.O. at 4,677 ft.
Continental Oil Co. No. 2 State H-35, C NE NE Sec. 35-17-34. Drlg. 4,485 ft.
Continental Oil Co. No. 3 State H-35, C NW NE Sec. 35-17-34. Loc.
Continental Oil Co. No. 3 State J-2, C SE NE Sec. 2-22-36. Drlg. 140 ft.
Culbertson & Irwin No. 2 Dabbs, NE NW NW Sec. 35-25-37. W.O.C. 3,038 ft.
Devonian Oil Co. No. 2 Christmas, SE SW SE Sec. 28-22-37. Loc.
Devonian Oil Co. No. 1 State-Ritts. C NW NW Sec. 21-17-34. Drlg. 1,535 ft.
Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. T.D. 3,600 ft.; F. 15 B.O.P.D.; est. 3,000,000 ft. of gas.
Great Western Prod. No. 1 Leonard, C SE NE Sec. 32-23-37. O.W.D.D.; O.T.D. 3,615 ft.; C.O. to bttm.; S.I. for storage.
Great Western Prod. No. 2-B Leonard, C NW NW Sec. 32-23-37. Loc.
Gulf Oil Corp. No. 1 Alley, C NE SE Sec. 10-23-37. T.D. 3,715 ft.; P.B. 3,686 ft.; 2,000 ft. F.I.H.
Gulf Oil Corp. No. 3-D Arnott-Ramsey, C NE NE Sec. 33-21-36. T.D. 3,885 ft.; swb. 8 B.O.P.D.; to acid.
Gulf Oil Corp. No. 1 Holt, C SW SE Sec. 16-24-37. R.U.S.T. 3,400 ft.
Gulf Oil Corp. No. 1-F Mattern, C NW NE Sec. 1-22-36. M.I.M.
Helmerich & Payne and Continental Oil Co. No. 1-G-36 State, C NW SW Sec. 36-17-35. T.D. 4,950 ft.; perf. cg. and acid.; now swbg. to test.
Humble O. & R. Co. No. 3 Greenwood, C SW SW Sec. 9-22-37. T.D. 3,705 ft.; F. 93 B.O. in 3 hrs.
Humble O. & R. Co. No. 4-H State, C NE NW Sec. 34-22-37. M.I. rot.
Italo Pet. Corp. No. 1 Carlson A-22, SW SE SE Sec. 22-25-37. W.O.C. 3,239 ft.
Italo Pet. Corp. No. 2 Carlson A-22, NE SW SE Sec. 22-25-37. W.O.C. 3,225 ft.
Italo Pet. Corp. No. 2 Carlson B-27, NE NE SE Sec. 27-25-37. Drk.
Magnolia Pet. Co. No. 2 Hardy, NW NW NW Sec. 29-21-37. Drlg. 3,730 ft.
Magnolia Pet. Co. No. 3 Hardy, C NE NW Sec. 29-21-37. W.O.C. 3,670 ft.
Magnolia Pet. Co. No. 1-M State, C NE NW Sec. 34-17-35. Drlg. 4,553 ft.; O.I.H.
Magnolia Pet. Co. No. 1-N State, C SW NW Sec. 19-17-35. Drlg. 3,942 ft.
Magnolia Pet. Co. No. 17 State-Bridges, C NE NE Sec. 25-17-34. T.D. 4,750 ft.; F. 7 B.O.P.H.
Magnolia Pet. Co. No. 18 State-Bridges, C SE NW Sec. 24-17-34. Drlg. 1,677 ft.
Magnolia Pet. Co. No. 19 State-Bridges, C NW NW Sec. 24-17-34. C.&P.
Maljamar O. & G. Co. No. 10 Baish, C SW NW Sec. 22-17-32. T.D. 4,110 ft.; F. 15 B.O.P.D.
Maljamar O. & G. Co. No. 1-B Baish, C NE NW Sec. 22-17-32. T.D. 3,600 ft.; R.U.S.T.
Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. T.D. 4,121 ft.; drlg. plug.
Jas. A. Mascho No. 2 Cloyd, C SW SW Sec. 20-22-33. T.D. 5,038 ft.; S.D.O.
J. M. Murray, Trustee, No. 1 Fanning, SE SW NW Sec. 33-23-37. Drlg. 3,030 ft.
Ohio Oil Co. No. 1 State-Shugart, C NE SE Sec. 34-17-34. Drlg. 2,985 ft.
Ohio Oil Co. No. 2 State-Warn, C NE NW Sec. 6-18-35. Drlg. 3,743 ft.
Ohio Oil Co. No. 1 Wills, C NE NW Sec. 35-26-37. T.D. 3,300 ft.; shot and F. 2,000,000 ft. gas and S.S.O.
Olean Pet. Co. No. 1 Boyd, C NW SW Sec. 23-22-37. T.D. 3,694 ft.; S.I. for pipe.
Olean Pet. Co. No. 1 Brunson, SW SE SE Sec. 4-22-37. Drlg. 3,405 ft.
Olean Pet. Co. No. 1 Farrell, C NE SE Sec. 22-22-37. T.D. 3,684 ft.; P.B. 3,664 ft.; S.I. for pipe.
Lem Peters No. 3 L. J. May, C NE SE Sec. 27-22-37 S.D. repairs, 910 ft.
Lem Peters No. 2 T. O. May, NW NE NE Sec. 34-22-37. Drlg. 2,755 ft.
Phillips Pet. Co. No. 2 Hale, C NE SW Sec. 35-17-34 Drlg. 1,116 ft.
Phillips Pet. Co. No. 3 Hale, C SE SE Sec. 35-17-34. C.&P.
Phillips Pet. Co. No. 1 Mabel, C SW NW Sec. 35-17-34. Drlg. 3,340 ft.
Phillips Pet. Co. No. 10 Santa Fe, C NE NW Sec. 24-17-34. Drlg. 4,420 ft.
Phillips Pet. Co. No. 15 Santa Fe, C NE NE Sec. 28-17-35. C.&P.
Schermerhorn Oil Co. No. 3 Woolworth, NW NW SE Sec. 28-24-37. Drlg. 1,439 ft.
Shasta Oil Co. No. 3 Woolworth, NE SE NW Sec. 28-24-37. R.U.R.
Shell Pet. Corp. No. 3 Grizzel, C SE SE Sec. 8-22-37. Drlg. 2,810 ft.
Shell Pet. Corp. No. 4-A State, C NE NE Sec. 31-17-35. Drlg. 4,320 ft.
Shell Pet. Corp. No. 1-H State, C NW SW Sec. 29-17-35. T.D. 4,700 ft.; swb. and F. 155 B.O. in 15 hrs.
Shell Oil Corp. No. 1-I State, C SW NW Sec. 29-17-35. T.D. 4,700 ft.; swb. 61 B.O. in 7 hrs.
Shell Pet. Corp. No. 1-N State, NE NE SE Sec. 24-21-35. T.D. 3,964 ft.; F. 210 B.O. in 4 hrs. and died.
Shell Pet. Corp. No. 1-N State, C NW NE Sec. 28-17-35 C.&P.
Shell Pet. Corp. No. 1-O State, C SE NE Sec. 34-17-34. Drlg. 2,345 ft.
Shell Pet. Corp. No. 1-S State, C NE SE Sec. 21-17-35. T.D. 4,705 ft.; swb. 140 B.O. in 13 hrs.
Skelly Oil Co. No. 1 Baker, C SW SW Sec. 10-22-37. T.D. 3,583 ft.; drlg. plug.
Skelly Oil Co. No. 6 Baker, C SW NE Sec. 27-22-37. T.D. 3,660 ft.; C.O. at 3,655 ft.; no gauges; S.I.
Skelly Oil Co. No. 1-B King, C NE SW Sec. 33-22-37. T.D. 3,710 ft.; F. 130 B.O. in 24 hrs.
Stanolind O. & G. Co. No. 4-C Hill, C SE NW Sec. 5-21-37. W.O. csg. 3,550 ft.
Skelly Oil Co. No. 4 Simms, C NW NW Sec. 3-23-37. Drlg. 416 ft.
Standard Oil Co. of Texas No. 1 State, Lease 5, C NW NW Sec. 27-17-35. Rng. csg. 4,235 ft.
Standard Oil Co. of Texas No. 2 State, Lease 4, C SW SE Sec. 27-17-35. Drlg. 900 ft.
Texas Co. No. 4 Black, C SE NW Sec. 21-24-37. Drlg. 2,105 ft.
Texas Co. No. 1 Lodewick, C SW SE Sec. 34-18-33. Drlg. 3,920 ft.
Texas Co. No. 1-T State, C SE NE Sec. 25-17-34. Drlg. 4,534 ft.
Texas Co. No. 2-L State, C NE NE Sec. 1-18-34. Drlg. 2,310 ft.
Texas Co. No. 2-N State, C NW SW Sec. 30-17-35. Drlg. 4,381 ft.
Texas Co. No. 9-O State, C SE SW Sec. 36-17-34. W.O.C. 4,110 ft.
Texas Co. No. 1-U State, C NE NE Sec. 2-18-34. Drlg. 3,015 ft.
Texas Co. No. 1-V State, C NE NW Sec. 34-17-34. Drlg. 3,208 ft.
Texas Co. No. 1-W State, C SW SE Sec. 13-17-34. Drlg. 2,090 ft.
Texas Pacific C. & O. Co. No. 6-A State, SW SE NW Sec. 21-23-26. T.D. 3,686 ft.; P.B. 3,676 ft.; F. 6 B.F.P.H.
Twin Oil Co No. 1 Hare, C SE SW Sec. 33-21-37. T.D. 3,557 ft.; to shut off gas.
Twin Oil Co. No. 2 Hare, C NW SW Sec. 33-21-37. Drlg. 2,885 ft.
Twin Oil Co. No. 1-B State, C NW NE Sec. 17-22-37. Drlg. 3,232 ft.
Twin Oil Co. No. 2 State, C SW NW Sec. 32-21-37. Drk.
Sam Weiner No. 3 Smith, C N½ NE SE Sec. 4-25-37. Drlg. 110 ft.
Sam Weiner No. 1 Woolworth, SE NE SW Sec. 33-24-37. Fsg. 2,816 ft.
Westmount Oil Co. No. 1 Amerada, C NW NE Sec. 12-17-36. T.D. 3,320 ft.; D.P. stuck.
Westmount Oil Co. No. 1 State, C SE NW Sec. 30-17-35. T.D. 4,675 ft.; F. 2 B.O.P.H.
Francis C. Wilson No. 1 State, C SW NE Sec. 7-21-35. T.D. 3,813 ft.; R.U. pump.
Francis C. Wilson No. 2 State, C NW NE Sec. 7-21-35. C.&P.

Eddy County

Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27. S.D.O. 625 ft.
F. E. Baker No. 1 Eddy, NE Sec. 12-22-27. S.D. 2,703 ft. for repairs.
George E. Bobb No. 1 Cannon, NE SW SE Sec. 4-19-30. C.&P.
Carper Drlg. Co. No. 1 Day, NE NE NE Sec. 3-19-21. T.D. 2,748 ft.; 800 ft. F.I.H.; swbg. and tstg.
Carper Drlg. Co. No. 3 Robinson, SW SW SE Sec. 25-16-31. Drlg. 2,270 ft.
B. Cockburn No. 1 State, C SW NE Sec. 16-18-31. T.D. 3,128 ft.; W.O.C.
Danciger O. & R. Co. No. 1-B Turner, CEL NE SE Sec. 17-17-31. T.D. 3,050 ft.; 2,000 ft. O.I.H.
Flint Prod. Co. No. 3-A Berry, NW SW NW Sec. 21-17-30. Drlg. 3,333 ft.; swb. 60 B.O.P.D.
Dominion O. & G. Co. No. 2 Johnson, C SE NE Sec. 35-16-31. T.D. 4,033 ft.; C.O. at 3,995 ft.; swbg. 20 B.O.P.D.
Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. Drlg. 3,751 ft.; 2,500 ft. O.I.H.
English & Harmon No. 1 Dougherty, NE NE SW Sec. 3-17-27. T.D. 2,319 ft.; gauged 1,000,000 ft. gas; S.I.
Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. Drlg. 2,030 ft.
Franklin Pet. Corp. No. 1 McIntyre, NW NE SE Sec. 20-17-38. T.D. 3,348 ft.; F. 80 B.O.P.D.
Fullerton Oil Co. No. 1-A Johnson, C SE NW Sec. 35-16-31. T.D. 3,871 ft.; R.U. pump.
Fullerton Oil Co. No. 2-A Johnson, C NW SE Sec. 35-16-31. T.D. 3,907 ft.; rng. tbg.; F. 70 B.O.P.D.
Fullerton Oil Co. No. 3-A Johnson, C NW SW Sec. 35-16-31. Drlg. 937 ft.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. T.D. 2,844 ft.; S.S.O.
New Mexico Eastern Gas Co. No. 2 Stephens, SE SE NE Sec. 20-17-38. T.D. 1,535 ft.; S.D.O.
Paton Bros. No. 1 Erwin, C SW SW Sec. 9-18-31. R.U. and S.D.
Premier Pet. Co. No. 1 Maddren-Beeson, NE SW SE Sec. 28-17-30. T.D. 3,418 ft.; S.O.; shot twice and C.O.
Premier Pet. Corp. No. 2-B Beeson, SW NW SW Sec. 27-17-30. Drlg. 2,215 ft.

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Worth Drlg. Co. No. 1 Taylor, C SW SW Sec. 12-18-31. Drlg. 2,490 ft.
Martin & Lysette No. 1 Pardue & Guitar, SE SW NW Sec. 29-24-36. S.D. reprs. 1,345 ft.
Martin Yates, Jr., No. 1 Bowers, SW SE SE Sec. 31-19-27. Drlg. 1,170 ft.
Yates et al No. 1 Yates, C SE SW Sec. 6-18-30. Drlg. 850 ft.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. T.D. 1,281 ft.; S.D.O.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 770 ft.; S.D. for csg.
Interstate Minerals, Inc., No. 1 Dunigan, NW cor. Sec. 15-15-30. Drlg. 3,780 ft.; S.S.O.&G.
J. & L. Drlg. Co. No. 2 Hurd, SW Sec. 11-11-26. T.D. 1,765 ft.; rng. csg.

De Baca County

N. F. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 190 ft.; S.D.O.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4n-24e. T.D. 680 ft.

Roosevelt County

Shell Pet. Corp. No. 1 Harwood, C S½ SE SE Sec. 27-7s-35e. Drlg. 3,310 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarito, Sec. 22-9n-1e. Drlg. below 500 ft.
Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW Sec. 10-11n-4e. Drlg. 4,300 ft.

McKinley County

Pet. Products Corp. No. 5 Santa Fe, SW NE NW Sec. 1-17n-9w. Drlg. below 500 ft.
S. Dysart No. 3-A Govt., NE NW NE Sec. 14-14n-10w. Landed 12½-in. at 1,320 ft.; will cmt.

Rio Arriba County

Oil City Pet. Co. No. 1 Azotea, SW SW NE Sec. 11-31n-2e. Drlg. 333 ft. and U.R. 6¼-in.; through Greenhorn; S.O.&G.

San Juan County

The Continental Oil Co. No. 82 Rattlesnake, NE SW NW Section 1-29n-19w, Rattlesnake field, was dry and abandoned at 981 feet.

Continental Oil Co. No. 83 Rattlesnake, SE SW NW Sec. 1-29n-19w. R.O.G.; (first report).
Jack Amenda No. 1, NE NE Sec. 14-29n-13w. T.D. 505 ft.; rng. 6⅝-in. to 325 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. Cmtd. 10-in. at 655 ft.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n 11w. S.D. 1,885 ft.; W.O. csg.; S.O. in Farmington sd. but will D.D. to Picture Cliff.
Goodrun & Vincent No. 2 Hare, SE SE Sec. 23-29n-11w. T.D. 1,692 ft.; U.R. at 1,490 ft.
Ted Whetstine No. 1 McGee, NW NW Sec. 20-30n-11w. S.D. 434 ft. for mat.
Bullock & Noland No. 1 Bunce, SW SE Sec. 24-29n-11w. Drlg. 1,023 ft.
San Juan O. & G. Co. No. 1 Cassidy, C SE SE Sec. 19-29n-11w. Drlg. 683 ft.

San Miguel County

Southwest Drlg., Inc., No. 1 Conchas, NW NE Sec. 34-17n-21e. T.D. 1,450 ft.; prep. run 13⅜-in. for W.S.O.

Socorro County

Central New Mexico Oil Co. No. 1, Belen gr., SE NW Sec. 16-3n-1e. S.D. 2,965 ft. after rng. 12½-in.

Torrance County

Drice Co. No. 1 Garland, NE SE NE Sec. 32-7n-7e. S.D.O.; H.F.W. at 1,405-13 ft.
Estancia Valley Carbon-Dioxide Dev. Co. No. 1 Crawford, SE NE NE Sec. 32-7n-7e. Drlg. 1,080 ft.
Chief O. & G. Co. No. 1 Lee, NW NW SW Sec. 12-6n-7e. T.D. 2,215 ft.; C.O. 300 ft.

Valencia County

Old Spanish Grants, Inc., No. 1 San Clemente, C SE SW Sec. 23-7n-1e. Drlg.; W.O. rotary.
C. A. Grober et al No. 1 Fuqua, NE NE Sec. 19-5n-3e. T.D. 840 (C.D.) ft.; W.O. title adj.

COLORADO

Adams County

J. B. Furstenberg et al No. 1 Hills, SE SE SE Sec. 27-3s-64w. Drlg. and cmtg. below 4,370 ft.

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 303 ft.; W.O. 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C Sec. 32-36-1w. T.D. 1,840 ft.; rng. 6¼-in. with bttm. hole pkr. to top Dakota.

Elbert County

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW Sec. 19-10s-60w. Cg. and drlg. below 6,690 ft.; base Timpas (C.D.) and top Codell 6,676 ft.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE Sec. 2-19s-70w. Drlg. 2,360 ft.
R. E. Hawks No. 1 Orndoff, NE SW NE Sec. 3-19s-70w. T.D. 1,988 ft.; tstg. S.O.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. S.D. 1,767 ft.; M.I. 4¾-in.

LaPlata County

N. Spatter No. 1-X Bryce, SE SW SW Sec. 31-33n-9w. Drlg. 1,960 ft.; W.S.O. at 1,860 ft. with 8¼-in.

Las Animas County

Hulme-Johnston-Allison No. 1 Azar, SE SE NW Sec. 27-34s-58w. Drlg. r.b. 570 ft. in 15-in. hole.

Mesa County

A new depth record for Colorado has been established in the joint test of the Continental Oil Co., the California Co., and the Amerada Petroleum Corp. in their No. 1 Miller, on Divide Creek, which is drilling below 9,083 feet. Prior record was held by the Mountain Fuel Supply Co. No. 2 Florence Wilson, on the Hiawatha dome in Moffat County, which was drilled to 7,577 feet in 1933. The Divide Creek well was in dark gray and black silty shale at 9,083 feet and had not yet reached the objective Dakota sand.

Continental Oil Co. et al No. 1 Miller, SW SW NW Sec. 36-8s-91w. Drlg. 9,083 ft.

Moffat County

Isenberg-Parker-Myers No. 1 Myers-State, NW SE NE Sec. 36-4n-103w. Spdg.
Stanolind O. & G. Co. No. 5 SD Parkinson, CNL NW SE Sec. 22-4n-92w. T.D. 3,339 ft.; tstg. W.S.O.
C. R. Provett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. S.D. 860 ft. for 8¼-in.
MacKinnie Oil & Drlg. Co. No. 1 Coles, SW SW SE Sec. 1-3n-92w. Drlg. 2,835 ft. in new hole; carrying 8¼-in. for W.S.O. below Dakota.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW Sec. 31-36s-17w. Drlg. 4,815 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. sh. 6,390 ft.

Prowers County

The Continental Oil Co. No. 1 Ruby, on the Cottonwood structure, is having trouble with a big cavity and will run a ton or two of sponges in an effort to get through. Fain Drilling Co., which had the rotary contract, has torn down and packed rotary tools and crews with exception of three men have been transferred to other wells and the company will install cable tools to complete the well on company account. It had the top of the Mississippian at 5,050 feet. Total depth is 5,434 feet.

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. S.D. 5,434 ft.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. S.D.O. 1,840 ft., C.D.; 6¼-in. at 1,801 ft.; wtr. in top Dakota.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. gry. sh. 3,448 ft.

Routt County

L. C. Craig and E. L. Moore No. 1-X Erwin, C SW NE Sec. 33-7n-85w. S.D. 160 ft.
Mid-Colorado Pet. Co. No. 1 Omholt, NE NE SE Sec. 29-4n-87w. S.D. 2,140 ft.; W.O. 6¼-in.
Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NW Sec. 1-6n-86w. Cmtd. 8¼-in. 1,389 ft. in Morrison; S.D.

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WYOMING

Big Horn County

Yale Pet. Co. No. 2 Allen, Lot 52 (approx. SW NW SW Sec. 34-56n-97w). Drlg. 2,000 ft.; contr. to Manning & Martin, Inc.

Kirk Oil Co. No. 1 Frisby, C SW SE Sec. 11-49n-94w. Drlg. grnsh. gr. and pnksh. clay mari 400 ft.

A. L. Rankin No. 1 Karjajla-Rankin, C SW NW Sec. 10-54n-94w. T.D. 580 ft. C.D.; P.B. to 575 ft.; will acd. and test S.O. in Embar 555-75 ft.

Prescott & Mileski No. 1 Govt., NE NW SW Sec. 15-1n-93w. T.D. 1,030 ft.; cmtd. csg. on top Kimball sd.

Clifford S. Johnson No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. Rig; W.O. engine.

Joan Oil Co. No. 1 Howell, NE NW NE Sec. 32-55n-97w. T.D. 2,470 ft.; str. crooked hole.

John H. Thomas No. 1 Govt., SW SW SE Sec. 3-54n-94w. Drlg. 675 ft.

Carbon County

The Ohio Oil Co. and California Co. No. 3-A Kyle, C SW NE Section 26-21n-79w, Big Medicine Bow field, an old producer in the Sundance which was deepened to the granite at 7,854 feet, total depth, was plugged back to the base of the upper Sundance at 5,643 feet and recompleted for 70 bbls. per day.

Sinclair-Wyoming Oil Co. No. 4 Mahoney, CNL NE SW Sec. 34-28n-88w. Rdy. to spd.

Ohio Oil Co. No. 3-A Baker, SW NW SW Sec. 2-23n-79w. Drlg. 780 ft.

C. D. Cunningham et al No. 1 Union Pacific-fee, NW SE NE Sec. 21-22n-78w. Cmtd. 10¾-in. 387 ft.; W. O.C.; S.G. in top Wall Ck. 318-58 ft.

Ohio Oil Co.-California Co. No. 5-A Kyle, C NW NE Sec. 26-21n-79w. Drlg. 4,676 ft.; top Wall Ck. 4,498 ft.

Producers Oil Co. No. 1 Lake Valley, 200 ft. CNL Sec. 14-20n-88w. T.D. 1,916 ft.; prep. to run 10-in.

Converse County

H. O. Emery et al No. 2 Roberts, C SW SE Sec. 2-31n-70w. Drlg. 254 ft.; S.G.

Jack Decker et al No. 1 Simonson, NW NE SE Sec. 16-32n-68w. S.D. 640 ft. for csg.

Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. Drlg. Minnelusa 2,050 ft.

Fred Bunker No. 1 Pestal, SE NE NE Sec. 32-32n-69w. Drlg. 500 ft.

New Era Fuel Co. No. 2 Mary Gasper, CNL NW SW Sec. 25-32n-69w. S.D. 670 ft. without tstg.

Wyshawn Oil Co. No. 1 Lindley, NW SE SE Sec. 34-32n-69w. Drlg. 2,382 ft.

Wyoming Southern Oil Co. No. 1 Winda, SW NE NW Sec. 6-31n-69w. Loc.

Blue Ridge Oil Co. No. 1, SW NW SE Sec. 29-32n-69w. Spd. and S.D.

Fremont County

Frank Pouppirt No. 1 Fidelity, Tr., SW NE SW Sec. 27-3n-1w. Drlg. sh. 1,115 ft.

Yellowstone Oil Co. No. 1 Govt., SW NE NW Sec. 27-38n-93w. Drlg. 740 ft. with C.T.

Lincoln O. & G. Co. No. 26 Tribal, NE SE SW Sec. 23-1s-1e. Drlg. 690 ft.

Tropic Oil Co. No. 1 Govt., C SE SW Sec. 34-27n-90w. Drlg. 3,445 ft.

Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. S.D. 1,150 ft.

Ben Stewart No. 1 Darnell, NE SE Sec. 26-3n-1w. S.D. 2,245 ft. for 7-in.

C. E. Nelson No. 8 fee, CWL NE SW Sec. 27-3n-1w. Drlg. 860 ft.

Hot Springs County

The Empire State Oil Co., which has production in the Hamilton dome field, has purchased the interests of Gray & Bauer in the Thermopolis refinery which that firm recently acquired from D. D. Gibson and will operate the plant for the production of road oil, fuel oil and other black oil products. Warm Springs crude will be treated at the plant as well as crude from Hamilton dome. Mr. Gibson will continue as superintendent for the Empire State company.

Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE Sec. 13-44n-98w. T.D. 1,800 ft.; cmtd. 10-in. at 1,750 ft.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 960 ft.

Natrona County

General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. Drlg. 5,900 ft.

Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW Sec. 35-40n-79w. T.D. 4,005 ft.; cmtd. 5½-in. at 3,999 ft.; will perf. and test.

Niobrara County

The Ohio Oil Co. has a good completion in the Lance Creek field in No. 11 Elizabeth Lamb, Account 2, SW SE SE Section 5-35n-65w, on the southeastern side of the pool, and a north offset to the Minnelusa Oil Co. No. 2 H. & M., which made 2,606 bbls. initially. The Ohio well made 1,680 bbls. the first 24 hours and 1,722 bbls. in the second period at 5,542 feet, total depth, from the Leo zone of the Minnelusa, topped at 5,461 feet. Elevation is 4,488 feet, rotary table. It ran about 30 feet higher on the Leo than the H. & M. well.

The Continental Oil Co. has a near completion in its No. 1-B Dielman, SW SE NE Section 7-35n-65w, which will mark an extension of the Leo sand production half a mile to the south. It had the top of the Leo at 5,408 feet, showing heavy saturation, and is coring ahead at 5,401 feet. Rotary table elevation is 4,479 feet.

Ohio Oil Co. No. 1 Jones, SE NE SE Sec. 30-35n-62w. Drlg. 250 ft.

J. E. Manning No. 1 Hewitt-Govt., NW SW SW Sec. 4-35n-65w. Loc.

Cow Gulch Oil Co. No. 1 MaGoon, NE NE Sec. 33-35n-64w. Contr. to Ernest Hall; will spd. Nov. 1.

Ohio Oil Co. No. 6 Cash O.P.C.-2, NW NW NE Sec. 4-35n-65w. Drlg. 3,994 ft.; top Dakota 3,375 ft.

MacKinnie Oil & Drlg. Co. No. 4 Thompson, SE SW NE Sec. 7-35n-65w. Drlg. 5,324 ft.; will start cg. at 5,400 ft.

Continental Oil Co. No. 1-B Dielman, SW SE NE Sec. 7-35n-65w. Cg. 5,410 ft. in sat. sd.

Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 415 ft.

H. D. Moore et al No. 1 Bergrem, NW Sec. 23-35n-63w. S.D. 1,740 ft.; wtr. in top Converse sd. at 1,660 ft.

Adams O. & G. Co. No. 1 Baker, NW NE SW Sec. 8-35n-65w. Cor. loc.

Continental Oil Co. No. 2-B Dielman, NE NW NE Sec. 8-35n-65w. Drlg. 1,600 ft.; cmtd. 13⅜-in. 412 ft.

Park County

Stanolind O. & G. Co. No. 26 Elk-2, near C NE Sec. 24-58n-100w. Cg. 2,474 ft.

Stanolind O. & G. Co. No. 18 Elk-5. NW NE NW Sec. 30-58n-99w. C.&P.

Ohio Oil Co. No. 1 Trans.-Ark., CSL SW SW Sec. 30-57n-98w. T.D. 6,929 ft.; P.B. to 5,660 ft.; cmtd. 4½-in. 5,594 ft.; perf. to test.

Resolute Oil Co. No. 2 State, C SW SW Sec. 16-57n-101w. Cg. in Frontier 8,731 ft.

Platte County

Bill Griffin et al No. 1, NE SE NE Sec. 18-30n-67w. Drlg. 500 ft.; 10-in. at 185 ft.

Sublette County

Texas Co.-Frontier Pet. Co. No. 1 Unit, SE SE SW Sec. 1-28n-114w. T.D. 5,977 ft.; installing heavier equip. and prep. to D.D.; (formeriy Frontier Pet. Co. No. 1 Govt.).

Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd ranch, SE SE Sec. 31-31n-112w. S.D. 10 ft.

Wyo. Pet. Co. No. 1 Chas. Budd, C NE NE Sec. 10-29n-113w. S.D. 1,800 ft. for winter; wtr. in all sds. to bttm.

Progressive Oil Co. No. 1 Haddenham, C NE SE Sec. 21-28n-113w. Drlg. 832 ft.

Sweetwater County

Sinclair-Wyo. Oil Co. No. 80, NE NE NE Sec. 11-26n-90w. Drlg. 1,525 ft.

Selegna Oil Co. No. 1 Union Pacific, SW SW Sec. 11-20n-104w. S.D. 5,230 ft. for winter.

Uinta County

Stove Creek Oil Co. No. 1 Govt., NE SW NE Sec. 26-14n-119w. Drlg. 1,567 ft.

Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. S.D. 300 ft.

Washakie County

Paul Boether No. 1 Govt., SW NW Sec. 4-47n-90w. Drlg. 1,567 ft.

Frison Oil Co. No. 2 Govt., SE SW NE Sec. 24-47n-90w. Drlg. 145 ft.

Weston County

The productive area of the Osage field was extended one-fourth mile to the southwest in Updike Brothers No. 1, NE SW NE Section 35-46n-64w, which was completed in the Newcastle (Muddy) sand at 2,027-39 feet for 40 bbls. per day, estimated, on the pump without being shot. The nearest producer on the northeast is George Keisling No. 1, NW NE NE Section 35, which was completed in sand at 1,928-56 feet last August for 100 bbls. per day. Last-named well also was an extension of better than one-fourth of a mile to the southwest.

Taylor, Dodge & Pauley No. 4, C SW NW Section 17-46n-63w, was dry at 400 feet. California Operators No. 1, SW SE Section 25-47n-63w, was dry in the Coffee Grounds sand at 280 feet.

Hugh Updike No. 1, CEL NW SE Section 15-46n-64w, was completed in sand at 2,230-44 feet, and is pumping 35 bbls. per day without a shot.

Osage production in September was 24,050 bbls. and refiners took 20,800 bbls., the remainder going to storage.

Geo. Keisling No. 1, SE SE NW Sec. 26-46n-64w. Drlg. below 500 ft.

Whedon et al No. 1, Sec. 21-46n-64w. R.U.R.

F. R. Dilger, Tr., No. 16, SW SW NE Sec. 30-46n-63w. Rng. csg. on top of sd. at 1,402 ft.

West Osage Oil Co. No. 3, SW SE NE Sec. 15-46n-64w. Hd. tight sd. 2,140-54 ft.; will shoot.

John Borophy No. 1 George, SW SE NW Sec. 26-48n-64w. Drlg. 2,220 ft.

MONTANA

Big Horn County

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M.

Blaine County

G. R. Teters No. 1 Stam, CSL SW SE Sec. 10-31n-18e. (formerly R. E. O'Keefe). S.D. 860 ft. for csg.; top Eagle 630 ft.

Carbon County

R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. Drlg. 2,400 ft.

Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW. Sec. 35-9s-23e. S.D. 1,810 ft.

R. C. Tarrant No. 2 Heare, NW SE NW Sec. 14-6s-19e. S.D. 2,335 ft. until spring.

Sha-Wha Pet. Co. No. 1 Govt., SW NW NE Sec. 35-9s-23e. S.D. 3,124 ft.

Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 4-6s-23e. T.D. 2,337 ft. (C.D.); C.O. to res.; will U.R. to bttm. and set csg.

Chotcau County

Security Pet. Corp. No. 1 Johnson, C NE Sec. 23-26n-3e. S.D. 1,991 ft.; C.D. for 6⅝-in.; Sunburst 1,935-53 ft.

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE Sec. 5-14n-55w. Drlg. 1,065 ft.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. T.D. 1,884 ft.; recond. hole.

Fallon County

Montana-Dakota Utilities Co. No. 45, Unit 7, SE NW SW Sec. 25-6n-60e. Drlg. 320 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW Sec. 7-15n-20e. S.D. 1,080 ft. (C.D.); in lower Quadrant.

Glacier County

Texas Co. No. 3 Curran, NE NE NW Sec. 8-32n-5w. R.U.

Consolidated Gas Co. No. 1 Tribal, NW NE NW Sec. 18-32n-5w. Drlg. 523 ft.; Colo. 445 ft.; 10¾-in. 510 ft.

Glacier Prod. Co. No. 3 Van Ormer, CEL NW Sec. 17-33n-5w. Drlg. 1,270 ft.; Colo. 560 ft.; 10¾-in. 595 ft.

Glacier Prod. Co. No. 1 Parker Unit, C N½ Sec. 28-34n-5w. Drlg. 1,160 ft.; Colo. 330 ft.; 10¾-in. 1,053 ft.

K. D. Pardee No. 2 Tribal-179, CEL NE SE Sec. 12-32n-6w. Drlg. 1,375 ft.; Colo. 495 ft.; 10¾-in. 513 ft.

M. R. Wagner No. 1 Tribal-173, CEL SE SE Sec. 12-32n-6w. Drlg. 2,775 ft.

C. P. Castle No. 4 State, CNL SW SW Sec. 36-35n-6w. Drlg. 1,995 ft.

Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Loc.

Judith Basin County

Fletcher E. Hunt No. 1 Hoven, SE NE NW Sec. 30-14n-15e. Spdg.

Fletcher E. Hunt No. 3, NW SE NE Sec. 30-14n-15e. Res. at 1,825 ft.

Park County

Ben Ryan et al No. 1 Burgess, SE SW NW Sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

H. Clark Rowland No. 1 Brundidge-Mink, SE NW Sec. 35-14n-25e. Skdg. rig from No. 1 Kalispel.

Watson Oil Co. No. 1 Austed, SW NW SE Sec. 22-13n-28e. Cmtd. 12½-in. at 520 ft.; drlg. plug.

O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. Drlg. 779 ft.

Phillips County

Treasure State Pool O. & G. Co. No. 4 Govt., C SE SW Sec. 2-24n-23e. Drlg. 930 ft.

Richland County

W. M. Fulton No. 1 Richardson, SW SW SE Sec. 29-26n-52e. Drlg. 540 ft.; small S.W. at 435 ft.

Teton County

Zodiac Oil Co.-Gulf States Oil Co. No. 1 Kellogg, NE NW NE Sec. 33-28n-5w. Drlg. 80 ft., C.D.

California Co. No. 1 Unit, NE SE SW Sec. 26-27n-9w. Drlg. below 2,353 ft.

Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27n-5w. T.D. 2,525 ft.; redrlg. at 2,353 ft.

Toole County

Lewistown-Flathead Oil Co. No. 2 Bashor, SE NW SE Sec. 9-35n-1w. Drlg. 780 ft.; (first report).

Platt-Bell No. 1 Govt., SW NW NE Sec. 9-34n-2w. S.D. 205 ft.; (first report).

P. L. Eddy No. 1 Sohn, SE SW NE Sec. 23-35n-3w. S.D. 1,725 ft.; dry in contact at 1,660 ft.

C. L. Smith, Agt., No. 1 Govt., SW SE NW Sec. 13-35n-2w. Drlg. 290 ft.

Sorrell No. 1 Ward, C NE NW Sec. 1-34n-4w. Spdg.

Big West Oil Co. No. 4 Engle, SW SW SW Sec. 1-35n-3w. Drlg. 1,375 ft.

Aspen O. & R. Co. No. 1 Govt., C NE SE Sec. 25-36n-3w. T.D. 1,875 ft.; rng. 6⅝-in.

C. D. Stocks No. 3 Haggerty, SE NW SW Sec. 13-35n-2w. S.D. 1,580 ft. until spring.

W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. S.D. 2,105 ft.

Fulton-Commonwealth No. 2 Thompson, NW NE SW Sec. 28-35n-3w. S.D. 1,233 ft.

H. C. Morton No. 8 Morton, C SW NW Sec. 24-34-2w. S.D. 1,440 ft.; good S.O. after acd.

Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Colonel Kevin Oil Co. No. 1 Govt., SW NE NE Sec. 27-35n-3w. S.D. 800 ft.

Yellowstone County

Signal O. & G. Co. No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. Cg. Mad. 4,757 ft.

Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. Drlg. 1,821 ft., near top of Muddy.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. Rmg. at 1,900 ft. for 8¼-in.

Crescent Eagle Oil Co. No. 1 Brendel, SW SE Sec. 4-22s-19e. Drlg. 4,110 ft.

Columbia Crude Corp. No. 1 Rath, NW SW SE Sec. 12-25s-20e. Drlg. 4,220 ft.

Summit County

Longwell Pet. Co. No. 1, SE SW SE Sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

Illinois Fields

(Continued from Page 50)

1,953-59 feet, shot with 15 quarts, pumped 275 bbls. Carter Oil Co. No. 1 Cunningham, SW NE SW Section 3-1s-2e, Bethel at 1,950-66 feet, shot with 15 quarts, pumped 235 bbls. Carter Oil Co. No. 2 Copple, NW SE SE Section 9-1s-2e, Bethel at 1,940-55 feet, shot with 15 quarts, pumped 264 bbls.

In Wayne County, H. H. Weinert No. 4 Morian A, SE SE NW Section 33-2s-7e, McClosky pay at 3,303-18 feet, estimated at 1,200 bbls., total depth 3,327 feet.

Marion County

In Marion County, A. Imenhauser No. 1 Fisher, NW SW SW Section 6-1n-1e, Centralia pool, Benoist at 1,372-89 feet, total depth, shot with 10 quarts, pumped 39

bbls. Menhall No. 8 Illinois Central R. R., NE NW NW Section 19-1n-1e, Benoist at 1,359-61 feet, shot with 15 quarts, pumped 125 bbls. Hollingsworth No. 1 Kallesbrenner, NE NE SW Section 5-1n-2e, Lake Centralia area, Benoist at 1,712-30 feet, flowed 500 bbls. naturally through 1-inch choke. Texas Co. No. 4 Correll, SE cor. NE Section 6-1n-2e, Benoist at 1,732-37 feet, with a small showing of oil; Aux Vases at 1,770 feet, total depth 1,822 feet, temporarily abandoned. Texas Co. No. 3 Luttrell, NE NE NW Section 16-1n-2e, Benoist at 1,907-16 feet, pumped 31 bbls. Kingwood Oil Co. No. 1 Devor, NW NW NW Section 17-1n-2e, Roseclaire at 1,990 feet, total depth 2,119 feet, plugged back to 1,880 feet and ripped casing opposite Benoist sand at 1,833-63 feet, pumped 233 bbls. Kingwood Oil Co. No. 2 Devor, SW NW NW Section 17-1n-2e, Benoist sand at 1,847-93 feet, pumped 187 bbls. J. J. Deaner No. 2 Burge, NW NW NE Section 18-1n-2e, Benoist at 1,863-97 feet, shot with 10 quarts, pumped 156 bbls. Tide Water Associated Oil Co. No. 1 Miller, NE NE NE Section 18-1n-2e, Bethel sand at 1,855-72 feet, flowed 240 bbls. naturally. Kingwood Oil Co. and Bell No. 2 Shanafelt, SE NE NE Section 20-2n-2e, Benoist 1,807-10 feet, total depth, flowed 240 bbls. Magnolia Petroleum Co. No. 3 W. B. Young, SW cor. SE SW NE Section 20-2n-2e, Bethel at 1,736 feet, total depth 1,787 feet, flowed 336 bbls. Magnolia Petroleum Co. No. 5 Young, NE SW NE Section 20-2n-2e, Bethel at 1,736-41 feet, total depth 1,790 feet, flowed 288 bbls. through tubing. Ohio Oil Co. No. 1 Mathew Young Heirs, NW SE SW Section 20-2n-2e, Benoist at 1,794-1,834 feet, flowed 156 bbls. through 1½-inch choke.

Shell Petroleum Corp. No. 2 Salem State Bank, NW NW SE Section 20-2n-2e, Benoist at 1,731-86 feet, flowed 287 bbls. Magnolia Petroleum Co. No. 3 Shanafelt, SW NW NW Section 21-2n-2e, Benoist at 1,777 feet, total depth 1,814 feet, flowed 180 bbls. Magnolia Petroleum Co. No. 1 J. H. Young, NW cor. SW Section 21-2n-2e, flowed 336 bbls. through tubing. Magnolia Petroleum Co. No. 4 W. B. Young, NW SE SW Section 22-2n-2e, dry and abandoned at 2,170 feet. Benoist was found at 1,897-1,942 feet and Fredonia lime at 2,125 feet. Magnolia Petroleum Co. No. 2 J. H. Young, NE NW NW Section 28-2n-2e, Benoist at 1,772-76 feet, flowed 336 bbls. through tubing. Texas Co. No. 1 Chapman, SE SW SW Section 28-2n-2e, Benoist sand at 1,730-34 feet, flowed 133 bbls. through 2-inch tubing. Magnolia Petroleum Co. No. 1 Shanafelt, NE SW SE Section 29-2n-2e, Benoist at 1,728 feet, total depth 1,775 feet, flowed 360 bbls. through 2-inch tubing. Magnolia Petroleum Co. No. 2 J. P. Young, SE SW NE Section 29-2n-2e, Benoist at 1,736-1,811 feet, flowed 216 bbls. through 2-inch tubing. Paul Rossi No. 2 Brooks, NW NE SW Section 29-2n-2e, Benoist at 1,736-84 feet, flowed 180 bbls. through 2-inch tubing. Sheppard and others No. 2 Greer, SE SW NE SW Section 30-2n-2e, McClosky pay at 2,013 feet, flowed 262 bbls. Cumberland Petroleum Co. No. 3 Mac Roberts, NE cor. SW SE NE Section 32-2n-2e, Bethel sand at 1,745-85 feet, flowed 230 bbls. Magnolia Petroleum Co. No. 2 D. A. Shanafelt, SW cor. NW SE NE Section 32-2n-2e, Bethel top at 1,709 feet, total depth 1,757 feet, flowed 73 bbls. in 12 hours. Wiser Oil Co. No. 3 Weems, NE NW NW Section 33-2n-2e, Benoist top at 1,759 feet, total depth 1,882 feet, flowed 542 bbls. through tubing.

In Clay County, Pure Oil Co. No. 1 Susie Crews, C W half NW NE Section 27-1n-7e, Fredonia lime at 3,119 feet, pay at 3,122-25 feet, flowed 348 bbls. Olsen Drilling Co. No. 1 Johnson, C S half NW NW Section 12-2n-7e, total depth 3,076½ feet, dry and abandoned. Pure Oil Co. No. 2 J. Earl Moseley B, C E half NE SW Section 4-2n-8e, pays at 2,969 to 2,994 feet, acidized with 5,000 gallons, flowed 332 bbls. of net oil. Pure No. 7 Tetrick A, C E half SW SW Section 4-2n-8e, pay at 3,015-20 feet, total depth 3,035 feet, acidized with 5,000 gallons, pumped 46 bbls. of oil. Pure No. 2 G. L. Travis B, C W half SE NW Section 4-2n-8e, pay at 3,025-28 feet, total depth 3,044 feet, acidized with 5,000 gallons, pumped 77 bbls. Pure No. 1 Mary Campbell, C W half SE SE Section 9-2n-8e, pays at 2,995-3,000 feet and 3,002-04 feet and 3,038-42 feet, acidized with 5,000 gallons, flowed 819 bbls. of net oil. Pure No. 1 Eugene Henderson, C E half SE NW Section 17-2n-8e, pays at intervals from 2,974 to 3,068 feet, acidized with 5,000 gallons, flowed 213 bbls. Pure No. 2 J. J. Smith, C N half NE SE Section 17-2n-8e, pays at 2,993 to 3,045 feet, acidized with 5,000 gallons, flowed 438 bbls. of net oil. Schlafly & Dameron No. 1 Nash, SE NW NE Section 13-3n-6e, pay at 2,969-73 and 2,976-78 feet, acidized with 6,300 gallons, flowed 280 bbls.

In Marion County, Rollin H. Brian, Trustee No. 4 Nottier Heirs, NE SW SE Section 29-4n-1e, Patoka district, Benoist sand at 1,425-44 feet, shot with 50 quarts, pumped 74 bbls. in 11 hours. Newman & Brookin No. 1 Walter Neilson, NE cor. SW NW Section 20-4n-2e, sand at 950-70 feet and 1,085-88 feet, total depth 1,752 feet, dry and abandoned. Wigoco Oil & Gas Co. No. 1 Nichols, SW cor. NW SW Section 22-4n-2e, showing of gas at 1,085 feet, total depth 1,550 feet, dry and abandoned.

In Richland County, Pyramid Petroleum Co. No. 3 University of Chicago, SE NW NW Section 26-4n-10e, was dry and abandoned at 3,061 feet. Fredonia lime was topped at 3,037 feet.

Fayette County

In Fayette County, Jarvis Brothers No. 1 Walnut Grove School, SW cor. Section 5-6n-3e, was dry and abandoned at 1,753 feet. Bethel sand was found at 1,670-1,701 feet with a slight stain of oil. Texas Co. No. 1 Bennyhoff, NW SW NE Section 30-6n-3e, Weiler sand at 1,613-36 feet, pumped 102 bbls. Ray Brown No. 6 Hopper, SW cor. NW NE SE Section 12-7n-2e, Weiler at 1,540-61 feet, pumped 150 bbls. Ray Brown No. 1 Townsend, SE SE SE Section 12-7n-2e, Weiler at 1,518-50 feet, pumped 50 bbls. Magnolia Petroleum Co. No. 3 T. C. Clow, SE SE NW Section 5-7n-3e, Bethel sand at 1,541-44 feet, flowed 240 bbls. Magnolia Petroleum Co. No. 4 T. C. Clow, SW SW NE Section 5-7n-3e, Bethel sand at 1,560-96 feet, flowed 200 bbls., estimated. W. C. McBride, Inc. No. 2 Laura Logue, SW cor. SE SW NW Section 8-7n-3e, Benoist sand at 1,513-29½ feet, shot with 30 quarts, flowed 26 bbls. per hour through 2-inch tubing. Ray Brown No. 7 Rosa Hopper, SW cor. NE SE Section 12-7n-2e, Weiler at 1,520-55 feet, flowed 65 bbls. in eight hours. Mabee Drilling Co. No. 3 Morrison, SE cor. NE NW SE Section 19-7n-3e, Weiler at 1,504-53 feet, pumped 175 bbls., estimated. Carter Oil Co. No. 1 Sidener, SE SE SE Section 19-7n-3e, Weiler at 1,520-62 feet, shot with 60 quarts, pumped 150 bbls. Carter Oil Co. No. 1 Caddington, SW SW SW Section 20-7n-3e, Weiler sand at 1,508-56 feet, shot with 80 quarts, flowed 266 bbls. This well was drilled to 1,623 feet and plugged back to 1,554 feet. Gotex No. 1 McKenzie B, SE SW SE Section 20-7n-3e, Weiler sand at 1,548-66 feet, pumped 220 bbls.

Minerva Oil Co. No. 1 Breese, NW NE NE Section 20-7n-3e, Benoist sand at 1,651-68 feet, good showing of oil, shut down. Minerva Oil Co. No. 1 Morris, SW SW NW Section 27-7n-3e, Weiler at 1,549-70 feet, pumped 120 bbls. Mabee Drilling Co. No. 6 First National Bank, SW NW SE Section 30-7n-3e, Weiler at 1,541 feet, total depth 1,593 feet, pumped 231 bbls. Carter Oil Co. No. 1 McKay, SW NW SW Section 12-8n-3e, Weiler at 1,450-76 feet, shot with 40 quarts, pumped 166 bbls. Carter Oil Co. No. 2 Laremore, NE NW NW Section 14-8n-3e, Bethel at 1,515-37 feet, shot with 37 quarts, flowed 175 bbls. Carter Oil Co. No. 7 Leander Wood, NW SW SW Section 15-8n-3e, Benoist sand at 1,564-82 feet, shot with 40 quarts, flowed 291 bbls. Carter Oil Co. No. 8 Leander Wood, SW NW SW Section 15-8n-3e, Bethel sand at 1,548-61 feet, flowed 115 bbls. Whisenant and others No. 5 Lilly, SW SE SW Section 16-8n-3e, Weiler sand at 1,482-97 feet, flowed 336 bbls. Whisenant and others No. 6 Lilly, SW NW SE Section 16-8n-3e, Bethel sand at 1,555-81 feet, shot with 40 quarts, flowed 332 bbls., estimated. Carter Oil Co. No. 1 Drees, NW NE NW Section 22-8n-3e, Bethel at 1,451-86 feet, shot with 60 quarts, 45 bbls. Carter Oil Co. No. 2 Drees, NE NW NW Section 22-8n-3e, Bethel at 1,455-72 feet, shot with 30 quarts, flowed 104 bbls. in 13 hours with 3,000,000 feet of gas, then flowed 490 bbls. through tubing in 24 hours. Carter Oil Co. No. 1 Bertha Williams, SW SW SE Section 27-8n-3e, Bethel at 1,591-1,602 feet, pumped 146 bbls. Ray Fisher No. 1 Rhodes, NW NW SE Section 27-8n-3e, Bethel sand at 1,577-92 feet, shot with 30 quarts, 90 bbls. of oil and 9 bbls. of water. L. & G. No. 1 Emerson, NE cor. SE NE SW Section 31-8n-3e, shot with 20 quarts at 1,532-41 feet, small showing of oil and water, shut down.

Mabee Drilling Co. No. 1 Kepp, SE cor. NE NE SW Section 31-8n-3e, dry and abandoned at 1,637 feet. Paul Doran No. 6 Hoetting, N half SW NW NW Section 32-8n-3e, Weiler at 1,516-52 feet, shot with 60 quarts, pumped 310 bbls. Oil, Inc. No. 2 Blurton, NW NE NW Section 32-8n-3e, Bethel at 1,566-96 feet, shot with 40 quarts, flowed 220 bbls. Carter Oil Co. No. 2 Dial, SW SW NE Section 33-8n-3e, Bethel at 1,563-88 feet, shot with 50 quarts, flowed 460 bbls. Magnolia Petroleum Co. No. 1 Lucy Watson, NW SW SW Section 34-8n-3e, total depth 1,626 feet, plugged back to 1,626 feet, 144 bbls. of oil and 24 bbls. of salt water from stray sand topped at 1,582 feet.

In Moultrie County, Ralph Neeley No. 1 Shuman, SW NW NE Section 18-13n-6e, dry and abandoned at 2,007 feet. Fredonia lime was topped at 1,900 feet. Continental Oil Co. No. 1 Aaron Miller, SW NW NW Section 22-15n-6e, dry and abandoned at 1,766 feet. Benoist sand was topped at 1,700 feet.

Wildcat Progress

In Lawrence County, C. E. Forman No. 1 W. H. Thompson, 230 feet from south and 500 feet from west lines NW quarter Section 22-2n-12w, dry and abandoned at 1,247 feet. Rockstead No. 1 Ulrich, SE SW NE Section 20-3n-13w, drilling at 579 feet. Leathers No. 1 Yonaka, NW SE SW Section 22-2n-14w, drilling at 125 feet. Strine, Hanke and others No. 1 Carrie, shut down for repairs at 200 feet.

Swords and others No. 1 Ohlman, SW NW NW Section 10-10n-1w, Montgomery County, drilling at 1,197 feet.

In Shelby County, Frank Frederick and others No. 1

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Fluge, near C W half NE NW Section 34-10n-5e, rigging up machine. Prunty Production Co. No. 1 Hickey, C SE SW SW Section 34-12n-4e, drilling at 1,135 feet.

In Edgar County, A. M. Myers No. 1 Brinkerhoff, C SE SE Section 26-13n-13w, drilling at 1,210 feet. McNamara Construction Co. No. 1 Blair, NW NE NW Section 24-14n-14w, drilling at 1,230 feet.

In Morgan County, Alexander Oil Co. No. 1 Gray, 800 feet from west and 1,050 feet from south lines Section 25-15n-9w, drilling at 1,545 feet.

In Platt County, Max Pray No. 1 Baker, SW SE NE Section 17-18n-6e, drilling at 3,404 feet, in lime.

In Wayne County, H. H. Weinert No. 1 Sprague, C N half NW SE Section 4-2s-7e, coring at 3,311 feet.

In Franklin County, Eason Oil Co. No. 1 Orient Mine, in Section 36-6s-2e, Fredonia at 2,906 feet, St. Louis at 3,130 feet, dry and abandoned at 3,197 feet.

In Jefferson County, Doctor Moore No. 1 Moore, SE NE NW Section 16-3s-5e, total depth 2,110 feet, two joints of casing in the hole, shut down. Benedum-Trees, Inc., No. 1 Jefferson Oil & Gas Co., C NW NE Section 16-4s-2e, total depth 2,958 feet. Perforated casing at 2,730-53 feet, fishing for casing.

In Randolph County, Arnes Drilling Co. No. 1 Nicholson, NW SE NW Section 12-5s-9w, Trenton at 1,215 feet, drilling at 1,220 feet. Badger Oil Co. No. 1 Schroeder, SE NW NW Section 27-6s-6w, drilling at 1,270 feet.

In Schuyler County, Fell Oil Trust No. 1 Thomas, 600 feet from north and 400 feet from west lines SW SW Section 15-1s-2w of fifth principal meridian, showing of oil at 405-07 feet, total depth 642 feet, shut down.

In Jefferson County, J. Garfield Buell No. 1 Pitchford, SW SW NW Section 2-2s-1e, Aux Vases at 2,195 feet, drilling at 2,208 feet.

In Bond County, Lindsey Brothers and others No. 1 Butter, NE NE SW Section 31-4n-2w, Fredonia lime at 1,252 feet, fishing at 1,270 feet.

In Fayette County, Lindsey and others No. 1 Bowers, SW NE SE Section 36-4n-1w, drilling at 115 feet. Hurricane Creek Oil Co. No. 1 Eddie Eckard, C NW NE Section 15-6n-1w, shut down at 1,390 feet. Putnam and others No. 1 Farmer, C SE SE Section 35-6n-1w, drilling at 1,217 feet. Ruwalt & Johnson No. 1 Maritz, 320 feet from north and 1,305 feet from east lines, NE quarter Section 28-7n-3e, set 7-inch casing at 1,591 feet. Producers Oil Co. No. 1 Farthing, NE NE NE Section 30-9n-1e, drilling at 1,220 feet, with small showing of oil. Continental Oil Co. No. 1 Bartlett, NE NW NE Section 30-9n-1e, drilling at 1,247 feet. Ulrich and others No. 1 Durbin, C NW NW SW Section 30-9n-3e, drilling at 410 feet. A. A. Baker No. 1 Garrett, NE SE SE Section 9-9n-3e, moving in rotary. Simar Oil Co. No. 1 Prudential Life, SW SW SW Section 16-9n-3e, set surface casing at 45 feet. Paul Brauer and others No. 1 Banning, SW SE SE Section 15-9n-3e, moving in rotary.

In Marion County, Pruitt Brothers No. 1 Kabala, C NW NW NE Section 9-1n-1e, set 10-inch at 50 feet, and shut down for water at 800 feet; Kiskaddon No. 1 Johnson, NE NW NE Section 32-1n-1e, drilling at 1,190 feet; Tom Boyce No. 1 Stover, NE NE SW Section 30-1n-2e, drilling in shale at 1,550 feet. Mid Valley Steel Co. No. 1 Bedwell, SE NE SW Section 5-2n-2e, set 8¼-inch casing at 91 feet; W. S. Totum No. 1 Brockman Brothers, C NE NE Section 5-2n-2e, Aux Vases at 2,033½-46 feet, cored at 2,175-92 feet, recovered 2 feet of hard limestone, with a small showing of oil, and 13 feet of saturated oolitic limestone; Nash Redwine No. 1 Pruden, SW SW NW Section 10-2n-2e, Bethel sand at 1,967-74 feet, 1,000 feet of salt water in hole and no showing of oil, shut down for orders. Granier Brothers No. 1 Mulvaney, SE NE SE Section 6-2n-4e, drilling at 2,145 feet. Conrey & Griffin No. 1 Bilek, NW NW NE Section 26-4n-2e, drilling at 1,360 feet.

In Bond County, Huppert and others No. 1 Dresser, SW NE NW Section 21-6n-4w, Devonian lime at 1,775 feet, pay at 1,800-30 feet, reported to have a showing of oil.

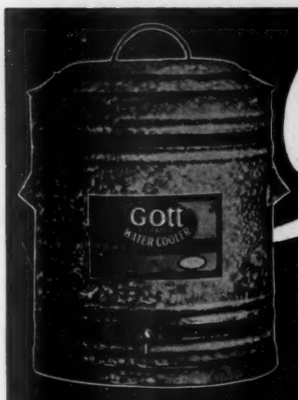
EASTERN KENTUCKY OPERATIONS

ASHLAND, Ky., Oct. 31. — Two completions, one well drilled in without a production report, and two dry holes are included in this week's report of operations in the Eastern Kentucky district.

Brand Brothers completed No. 2 Tom Howard, at Twin Lick, in the Wheelersburg district of Magoffin County. The well started at 3 bbls. per day.

South Penn Oil Co. completed No. 112 Flahaven Land Co. on Big Sinking in the district of that name in Lee County, at 878 feet, a 10-bbl. well. In the same district, S. S. Snowden has a dry hole at 847 feet in No. 2 Sarah Snowden on Billie's Fork.

(Continued on Page 90)



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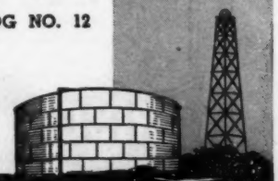

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Oct. 29.—Official figures just issued show that crude production from all Canadian fields in August totaled 817,706 bbls., compared with a previous high of 693,332 bbls. in July and 291,641 bbls. in August, 1937. For the first eight months of the current year, the output was 4,430,463 bbls. against 1,599,185 bbls. in the same period last year.

New Brunswick production increased from 1,867 bbls. in July to 4,135 bbls. in August, and from 12,647 bbls. in the 1937 period to 14,859 bbls. this year. Ontario production gained from 13,222 bbls. in July to 14,548 bbls. in August, but for the eight months declined from 111,826 to 108,968 bbls. Alberta production increased from 678,243 bbls. in July to 799,023 in August, and for the eight months was up from 1,468,461 to 4,306,636 bbls.

Warwick Shallow Producers

Possibilities of a new shallow oil pool in Ontario are indicated by the completion of three successive producers in Warwick Township, Lambton County. The producing wells are located on King's Highway No. 22, about 2 miles east of Watford, and about 17 miles east and a little north of the Petrolia shallow field, the most important crude producing area in eastern Canada.

Attention was directed to the Warwick area by Andrew Heal of Petrolia who, in drilling for water, discovered the absence of the shale, indicating a structural high. The first test was drilled by Bert Wilson of Sarnia for T. W. Cooper and associates of Port Huron, on the Loftus McLean farm, Lot 23, Concession 5, south of No. 22 highway. Wilson No. 1 got production at around 480 feet, with a flush reported as high as 50 bbls., and has been making around 28 bbls. a day. North of the highway, Albert Gibson of Petrolia drilled the second producer on the John Westgate farm, Lot 23, Concession 4, finishing at 480 feet with 28 to 29 bbls. production or better. It is being put on the pump.

The third well was located about a mile farther east, where Andrew Heal and Sam Burchell drilled on the Sam Burchell farm, Lot 27, Concession 5, south of the highway. The two previous tests had found only noncommercial showings in the upper lime, but Heal-Burchell No. 1 got production at 376 feet. The well has been making 100 to 110 bbls. a day. It will later be deepened to the lower lime. It shows more gas than the earlier wells.

Dozen Wells Drilling

About a dozen wells are drilling or starting, mostly in Concession 4 north of No. 22 highway. About a half mile east of Watford the most westerly well is being drilled by Jerry Hussey for Charles Fairbanks, J. B. Dale, Bev. Pollard and Jerry Hussey of Petrolia in Lot 21, Concession 4. Immediately to the east, W. J. Hussey of Petrolia is drilling on the F. Morgan farm in Lot 22, Concession 4. Immediately east of Gibson No. 1 producer, George Donald of Oil Springs is drilling for Frank Yerks of Petrolia on the Thomas Westgate, Jr. farm in Lot 24, Concession 4; and Clarence Demery of Kerwood is drilling for F. R. Hambly of Strathroy on the Thomas Westgate, Sr. farm, east part same lot. F. L. Davidson of Wingham is drilling No. 1 for F. R. MacIntosh of Petrolia on the A. S. Cameron farm, Lot 25, Concession 4. Farther east, Busby & Ferguson No. 1, Lloyd Eastabrook farm, Lot 27, Concession 4, is nearing completion. The most easterly test is on the Henry Rivers farm, Lot 29, Concession 4, where Bullen, Stonehouse and Rose of Petrolia are starting.

On the south side of No. 22 highway in Concession 5, Dr. Martin Peever of London is finishing a test in Lot 23, Concession 5, south and west of Wilson No. 1 producer. Farther east, and just west of Heal-Burchell No. 1 producer, Doctor Vonberg of Detroit is finishing his No. 1 on the Lloyd Eastabrook farm, Lot 26. Heal-Burchell No. 2 is starting on the Sam Burchell farm, Lot 27. The field is pretty well leased up, and a number of new tests are rigging. Some leases have changed hands at $5,000 to $6,000. Light drilling outfits of various types are being used. Production comes from a porous limestone similar to that in the Petrolia field, though the exact thickness of the producing horizon has not been determined. The Canadian National Railways run just south of the field, but most of the equipment is being hauled in by truck, and the crude production delivered to Petrolia by tank truck, a paved highway extending the entire distance. Crude from Wilson No. 1 discovery well rated about 37 gravity, and from Gibson No. 1 tested 39.9. Crude from Heal-Burchell No. 1 was 43.3 gravity, lighter than most Ontario shallow crudes.

In the Petrolia field, W. J. Hussey No. 1 Peninsular Sugar Co. property, Blind Line, is waiting for a shot.

Saskatchewan Oil Show

In western Saskatchewan, Vera Oilfields No. 2, LSD 5, Section 23-41-24w3, in the Unity Valley area, uncovered substantial flow of crude in the top of the Devonian limestone around 2,070 feet. A small showing was previously struck in the lower Cretaceous between 2,000 and 2,010 feet, when 6-inch casing was lowered to 2,000 feet and the hole deepened into the Devonian. After encountering the second showing, drilling was continued to about 2,080 feet, when bailing was commenced, in spite of which the crude rose steadily in the hole. The showing in the lower Cretaceous was a 30-gravity greenish crude, but the Devonian production is blackish. The strike was confirmed by J. R. Hill, deputy minister of natural resources, who inspected the well and estimated potential production around 100 bbls. a day.

The first drilling in the Vera field was undertaken some years ago by Unity Valley Oil Co., headed by R. H. Breckon of Calgary, who was also active in Vera Oilfields, Ltd. Vera Oilfields No. 1 encountered a show of crude in the top of the Devonian lime. Vera No. 2 was completed to 1,400 feet by Franco Oils, Ltd. of Cardston, Alberta, for an acreage consideration. The field is a few miles east of the Alberta boundary.

In the Lloydminster gas field, eastern Saskatchewan, Lloydminster Royalties, Ltd. is moving drilling equipment to No. 1 location southwest of Lloydminster. The test, the most westerly yet undertaken in the field, will be carried to a depth of 4,000 feet.

Turner Valley Quotas Cut

In the Turner Valley field, the Conservation Board has announced new quotas for crude producers, effective from October 20, under which the aggregate output of 58 producers is reduced to 14,500 bbls., against a previous aggregate allowable of 22,000 bbls. In the last weeks under the former quota, companies accumulated large storage of crude, and several large new wells have been completed.

Under the new schedule, the largest producer is York Oils No. 1, LSD 2, Section 20-18-2w5, with 548 bbls., Frontier No. 1 ranking second with 523 bbls. The larger producers include Sundance Royalties No. 1, with 489 bbls.; Sunset Oils No. 1, with 475 bbls., and Sunset No. 2, with 474 bbls., and Royalite Oil Co. No. 30, with 470 bbls. Model-Reward-Spooner No. 1, LSD 4, Section 28-18-2w5, was found to require more than 31,000 feet of gas to raise a barrel of crude, and was accordingly rated a gas well; its previous crude allowable was 72 bbls.

Turner Valley Completions

On the Turner Valley west flank, Sunset Oils No. 2, LSD 7, Section 20-18-2w5, finished at 7,525 feet with temporary allowable of 859 bbls., has been given a new allowable of 474 bbls. Consolidated Royalties No. 1, LSD 14, same section, finished at 7,986 feet with tentative production quota of 791 bbls., and has been given official allowable of 441 bbls.

In Section 16-18-2w5, Brown Oil Corp. No. 5, LSD 12, finished at 7,146 feet, was given special allowable of 321 bbls. after acidization. It has been gun perforated in the porous horizon and reacidized, and is retesting production. Richwell Oil Co. No. 1, finished by Neil McQueen and associates of Vancouver at 7,115 feet, developed a restricted flow of 1,306 bbls. under government test. It has been given a special allowable of 428 bbls. a day. It marks a further extension of the large producing area toward the southwest.

In Section 32-18-2w5, Davies Petroleums No. 4, LSD 10, finished at 7,236 feet after getting the Madison limestone at 6,776 feet. Tubing was run, and the well acidized. It is testing for allowable, with indications of a large producer.

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Hancock-Bush, No. 4 Bradley, Santa Maria, S. Barbara	26-10-34	4,315	sd. sh. drlg.
Union Oil, No. 12 Coast, Santa Maria, Santa Barbara	26- 9-34	3,541	sd. sh. drlg.
O'Donnell, J. E., No. 1 Helen, Lompoc, Santa Barbara	8- 7-33	4,976	sd. sh. drlg.
Richfield Oil, No. 1 Tinquaic, Foxen Can., S. Barbara	36- 9-32	967	sd. sh. drlg.
Barnsdall Oil, No. 1 Pezzoni, Gato Ridge, S. Barbara	15- 8-32	4,176	br. sh. drlg.
Continental Oil, No. 2 Laguna, Zaca Creek, S. Barbara	25- 8-31	3,960	sd. sh. drlg.
General Pet., No. 1 Laguna, Los Alamos, S. Barbara	6- 7-30	2,781	sd. sh. drlg.
Oceanic Oil, No. 1 Lowe, S. Barbara Mesa, S. Barbara	28- 4-27	1,963	bailing
Ventura Drlg., No. 1, Ojai, Ventura	10- 3-23	1,014	sd. sh. drlg.
High Mesa Oil, No. 1 Butcher, Ojai, Ventura	16- 4-22	1,801	sd. sh. drlg.
Claran Oil, No. 1 Hardison, Sespe, Ventura	22- 4-20	405	cmtd. 400
Merchants Pet., No. 8 Hillside, Sespe, Ventura	1- 4-20	1,360	sd. sh. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	608	sd. sh. drlg.
Colima Oil, No. 2 Burge, Sespe, Ventura	29- 5-19	3,490	cleaning out
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	2,300	sd. sh. drlg.
Texas Co., No. 135 Shiells, Shiells Canyon, Ventura	4- 3-19	4,065	O.S. drlg.
Ridge Oil, No. 1 Fox, Padre Canyon, Ventura	9- 3-24	7,040	gr. sd. drlg.
C. C. M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	7,171	C.P. 6,920
C. C. M. Oil, No. 23-B Hobson, Rincon, Ventura	8- 3-24	4,192	hd. sh. drlg.
General Pet., No. 3 Tomson, Rincon, Ventura	8- 3-24	3,950	sd. sh. drlg.
Richfield Oil, No. 5-F State, Rincon, Ventura	17- 3-24	3,756	rig compressor
Tide Water A., No. 36 V.L.W., Ventura Ave., Ventura	25- 3-23	5,750	sd. sh. drlg.
Tide Water A., No. 77 Lloyd, Ventura Ave., Ventura	27- 3-23	5,117	locate water
Tide Water A., No. 111 Lloyd, Ventura Ave., Ventura	27- 3-23	10,258	recmtd. 9,981
Tide Water A., No. 126 Lloyd, Ventura Ave., Ventura	27- 3-23	5,990	O.S. drlg.
Tide Water A., No. 128 Lloyd, Ventura Ave., Ventura	27- 3-23	3,550	sd. sh. drlg.
Tide Water A., No. 7 Hartman, Ventura Ave., Ventura	22- 3-23	9,560	sd. sh. drlg.
Tide Water A., No. 11 McGonigle, Ventura Ave., Vent.	23- 3-23	11,935	O.S. drlg.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	8,930	recmtd. 7,391
Shell Oil, No. 30 Edison, Ventura Ave., Ventura	20- 3-23	7,520	cleaning out
Shell Oil, No. 32 Edison, Ventura Ave., Ventura	21- 3-23	2,040	sd. sh. drlg.
General Pet., No. 16 Barnard, Ventura Ave., Ventura	21- 3-23	5,449	will deepen
Lloyd Corp., No. 2 Dabney-Lloyd, Ventura Ave., Vent.	23- 3-23	6,870	O.S. drlg.
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	1,240	idle
Franco-Western Oil, No. 16, McKittrick, Kern	8-30-22	2,516	cmtd. 2,365
Cal. Lands, Inc., No. 1 Occidental, Lost Hills, Kern	24-26-20	7,473	sd. sh. drlg.
Tide Water A., No. 10-R Williamson, Lost Hills, Kern	2-26-20	1,460	O.S. drlg.
Belridge Oil, No. 27-4, North Belridge, Kern	27-27-20	5,790	sd. sh. drlg.
Belridge Oil, No. 27-13, North Belridge, Kern	27-27-20	8,465	flow 1,050 b.d.
Belridge Oil, No. 27-19, North Belridge, Kern	27-27-20	7,560	br. sh. drlg.
Belridge Oil, No. 27-31, North Belridge, Kern	27-27-20	7,991	br. sh. drlg.
Tide Water A., No. 22-3, North Belridge, Kern	22-27-20	8,326	hd. sh. drlg.
Tide Water A., No. 22, North Belridge, Kern	21-27-20	6,970	hd. sh. drlg.
General Pet., No. 2 St. Helens, Belridge, Kern	12-28-20	968	cmtd. 900
Shell Oil, No. 4 Olcese, Round Mountain, Kern	21-28-29	1,689	pump 15 b.d.
Shell Oil, No. 1-15 Jewell, Round Mountain, Kern	29-28-29	1,375	sd. sh. drlg.
Green Bay, No. 1 Conry, Round Mountain, Kern	30-28-29	2,368	dry; abd.
Grizzly Bear Oil, No. 1 Kelly, Round Mountain, Kern	6-28-29	1,645	rig to pump
Fuhrman, A., No. 12 Kernco, Kern River, Kern	28-28-28	651	O.S. drlg.
Helm & Smith, No. 10-A Kernco, Kern River, Kern	34-28-28	541	sd. sh. drlg.
Hast Oil, No. 5 Kern, Kern River, Kern	34-28-28	291	sd. sh. drlg.
Framac Oil, No. 3 Brown, Mount Poso, Kern	22-27-27	1,351	cleaning out
Tarr & McComb, No. 1 T.&M., Mount Poso, Kern	26-26-28	1,374	dry; abd.
Richfield Oil, No. 1, Union Avenue, Kern	5-30-28	6,990	sd. sh. drlg.
Wood-Callahan Oil, No. 3 Comm., Edison, Kern	21-30-29	2,791	sd. sh. drlg.
Johnson, G. W., No. 1, East Edison, Kern	33-29-30	1,350	hd. sh. drlg.
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	10,122	redrlg. 8,633
Greer, P. H., No. 2 Perrel, Mountain View, Kern	9-31-29	6,325	fish D.P.
Hogan Pet., No. 10 Wharton, Mountain View, Kern	32-30-29	4,995	sd. sh. drlg.
Renner, G. E., No. 2 R.H.L., Sivert, Kern	27-30-30	1,851	hd. sd. drlg.
Continental Oil, No. 3-A, KCL, Wasco, Kern	8-27-24	13,644	P.B. 13,140
Continental Oil, No. 1, KCL, Seaboard, Wasco, Kern	26-27-24	13,064	P.B. 9,413
Standard Oil, No. 8-1-B, KCL, Wasco, Kern	17-27-24	13,240	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	13,196	sd. sh. drlg.
Cal. Lands, Inc., No. 1 Salisbury, Buttonwillow, Kern	7-29-27	5,784	sd. sh. drlg.
Superior Oil, No. 3 Ruhl, Rio Bravo, Kern	1-29-25	10,120	sd. sh. drlg.
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,210	sd. sh. drlg.
Union Oil, No. 5-34, KCL, Rio Bravo, Kern	34-28-25	11,500	flow 2,550 b.d.
Union Oil, No. 6-34, KCL, Rio Bravo, Kern	34-28-25	11,140	sd. sh. drlg.
Getty Oil, No. 3 Ramsey, Rio Bravo, Kern	35-28-25	10,354	sd. sh. drlg.
General Pet., No. 3 Wagner, Rio Bravo, Kern	35-28-25	6,076	sd. sh. drlg.
General Pet., No. 4 Van Ness, Rio Bravo, Kern	2-29-25	10,480	sd. sh. drlg.
Shell Oil, No. 58-8-A, KCL, Ramosa, Kern	8-27-26	5,908	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,600	sd. sh. drlg.
Standard Oil, No. 11-16, KCL, Greeley, Kern	20-29-26	6,460	sd. sh. drlg.
Standard Oil, No. 1 Elrich, Greeley, Kern	20-29-26	7,980	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	12,335	gr. sd. drlg.
Continental Oil, No. 1-E, KCL, Stevens, Kern	17-30-26	8,574	redrlg. 8,060
Shell Oil, No. 47-20-B, KCL, Ten Section, Kern	20-30-26	8,212	O.S. drlg.
Shell Oil, No. 43-14-A, KCL, Canal, Kern	14-30-25	8,340	flow 3,330 b.d.
Shell Oil, No. 87-4-B, KCL, Canal, Kern	4-30-25	8,730	sd. sh. drlg.
Ohio Oil, No. 9-E, KCL, Canal, Kern	14-30-25	6,794	sd. sh. drlg.
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	7,864	redrlg. 4,990
Richfield Oil, No. 1, KCL, Tupman, Kern	32-30-25	8,315	sd. sh. drlg.
Ohio Oil, No. 1-F, KCL, Coles Levee, Kern	10-31-25	9,150	fish D.C.&B.
Fried, Julius, No. 1 Fried, Midway-Sunset, Kern	34-32-24	4,675	sd. sh. drlg.
Gibson Oil, No. 3 Blanck, Midway-Sunset, Kern	6-11-23	2,325	bailing
Richfield Oil, No. 1, KCL, Wheeler Ridge, Kern	28-11-20	7,796	sd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon Ranch, Kern	33-11-19	6,220	hd. sd. drlg.
Hall-Baker, No. 33-2 Reserve, Tejon Ranch, Kern	33-11-19	4,518	P.B. 4,494
Tide Water A., No. 1-F, North Coalinga, Fresno	1-19-15	5,860	sd. sh. drlg.
Pet. Sec., No. 88-7-F, East Coalinga, Fresno	7-20-16	6,620	sd. sh. drlg.
Pet. Sec., No. 31-18-F, East Coalinga, Fresno	18-20-16	6,270	sd. sh. drlg.
Goetz, F., Co., No. 1, East Coalinga, Fresno	10-20-15	6,763	dry; abd.
Standard Oil, No. 82-13-C fee, East Coalinga, Fresno	13-20-15	7,120	sd. sh. drlg.
Superior Oil, No. 1 fee, East Coalinga, Fresno	7-20-16	6,894	O.S. drlg.
Shell Oil, No. 21 Coast Range, East Coalinga, Fresno	17-19-15	2,244	P.B. 1,255
Dauphin Dev., No. 2 Boone, Alcalde, Fresno	30-21-14	3,796	gr. sh. drlg.
Stuart Oil, No. 1 Alcalde, Alcalde, Fresno	12-21-14	461	idle
Union Oil, No. 4 King, Kettleman North, Fresno	29-21-17	8,520	redrlg. 7,930
Superior Oil, No. 4-H, Kettleman North, Fresno	29-21-17	8,600	redrlg. 8,525
K.N.D.A., No. 27-8-Q, Kettleman North, Kings	6-22-18	8,710	hd. sd. drlg.
K.N.D.A., No. 58-8-Q, Kettleman North, Kings	8-22-18	8,396	hd. sd. drlg.
K.N.D.A., No. 36-16-Q, Kettleman North, Kings	16-22-18	6,685	br. sh. drlg.
K.N.D.A., No. 38-16-K, Kettleman North, Kings	16-22-18	8,140	hd. sd. drlg.
K.N.D.A., No. 65-20-Q, Kettleman North, Kings	20-22-18	5,750	br. sh. drlg.
K.N.D.A., No. 27-22-Q, Kettleman North, Kings	22-22-18	8,670	cleaning out
Standard Oil, No. 56-1-P, Kettleman North, Kings	1-22-17	1,397	sd. sh. drlg.
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	8,550	sd. sh. drlg.
Standard Oil, No. 41-17-K, Kettleman North, Kings	17-22-18	7,292	sd. sh. drlg.
Irvine, A. R., No. 1 Cloud, Tulare Basin, Kings	11-24-20	2,496	sd. sh. drlg.
Texas Co., No. 1 Lewis, King City, Monterey	13-19-5	3,998	hd. sh. drlg.
Tannehill, L. B., No. 1 Reliz, King City, Monterey	36-20-8	1,097	sd. sh. drlg.
Temblor Range Oil, No. 1 Temblor Range, S. L. Obispo	22-31-22	3,466	dry; abd.
Loma Grande Oil, No. 1 Edna, San Luis Obispo	28-31-13	1,497	test wet
Epco, Inc., No. 1 Ajax, Union, San Luis Obispo	27-26-13	550	cleaning out
Burch, I. L., No. 1 Little Cuyama, San Luis Obispo	4-10-26	214	sd. sh. drlg.
Ohio Oil, No. 2 Willard, Willows, Glenn	18-20-2	2,253	pump in mud
Amerada Pet., No. 1 California Lands, Colusa, Colusa	34-16-1	7,594	br. sh. drlg.
Wilshire Oil, No. 2 Crowell, Half Moon Bay, San Mateo	21- 6-5	1,604	sd. sh. drlg.
Richfield Oil, No. 1, Potrero Hills, Solano	10- 4-1	5,196	sd. sh. drlg.
Superior Oil, No. 1 Reclamation, R. Vista, Sacramento	7- 3-3	3,370	sd. sh. drlg.
Bernhart & Morrow, No. 1 Arnold, Berenda, Madera	22-10-17	3,190	dry; abd.
Texas Co., No. 2 Eureka, Eureka, Humboldt	22- 3-1	4,864	flow. mud

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Mojave Pet., No. 1 Hillside, Gorman, Los Angeles	5- 8-18	477	sd. sh. drlg.
Texas Co., No. 1 Anderson, Ocean Park, Los Angeles	9- 2-15	4,280	sd. sh. drlg.
Allison & Oglesby, No. 1 Gerner, Torrance, L. Angeles	23- 4-14	5,166	idle
Amron Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,094	sd. sh. drlg.
Coastal Counties Oil, No. 6, Torrance, Los Angeles	23- 4-14	5,106	rig to pump
Colma Oil, No. 1 Smith, Torrance, Los Angeles	10- 4-14	4,690	sd. sh. drlg.
Cal. Star Oil, No. 1 Whitacre, Torrance, Los Angeles	23- 4-14	5,040	idle
Douglas, A., No. 1 Beaudette, Torrance, Los Angeles	23- 4-14	4,950	cleaning out

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Federated Oil, No. 1 Silver, Torrance, Los Angeles	23-	4-14	4,950	sd. sh. drlg.
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,807	rigged up
Kerben Oil, No. 2 Empire, Torrance, Los Angeles	23-	4-14	4,975	pump. test
Kern Pet., No. 1 Madden, Torrance, Los Angeles	23-	4-14	3,796	will deepen
Louisiana Oil, No. 1 Lord, Torrance, Los Angeles	23-	4-14	5,146	O.S. drlg.
Medill, John, No. 4 Frenger, Torrance, Los Angeles	9-	4-14	3,595	rigged up
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23-	4-14	4,999	pump 20 b.d.
Moon Oil, No. 1 Beaver, Torrance, Los Angeles	23-	4-14	3,787	cleaning out
Pacific West. Oil, No. 7 Marble, Torrance, L. Angeles	22-	4-14	4,990	sd. sh. drlg.
Pettijohn, J. E., No. 1 Koala, Torrance, Los Angeles	22-	4-14	4,928	sd. sh. drlg.
Standard Oil, No. 1-1 Marble, Torrance, Los Angeles	15-	4-14	3,500	will deepen
Standard Oil, No. 1-15 Marble, Torrance, Los Angeles	22-	4-14	4,800	sd. sh. drlg
Standard Oil, No. 2-9 Marble, Torrance, Los Angeles	22-	4-14	4,830	sd. sh. drlg.
Standard Oil, No. 2-10 Marble, Torrance, Los Angeles	22-	4-14	3,674	sd. sh. drlg.
Star Pet., No. 1 Patton, Torrance, Los Angeles	23-	4-14	5,145	cleaning out
Sunny State Oil, No. 1 Bailes, Torrance, Los Angeles	23-	4-14	5,195	pump 140 b.d.
Ter Huen Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,960	pump 60 b.d.
C. C. M. O., No. 18, Torrance, Los Angeles	14-	4-14	3,730	cleaning out
Bush Oil, No. 1 Torino, Harbor City, Los Angeles	25-	4-14	5,567	gr. sd. drlg.
Bush Oil, No. 2 Gimenez, Harbor City, Los Angeles	25-	4-14	2,297	sd. sh. drlg.
B. & G. Oil, No. 52 Hawkins, Harbor City, L. Angeles	25-	4-14	4,798	sd. sh. drlg.
Bandini Pet., No. 1 Harbor, Harbor City, Los Angeles	25-	4-14	5,267	flow 225 b.d.
Caminol Co.,, No. 3-14 Lomita, Harbor City, L. Ang.	25-	4-14	2,184	sd. sh. drlg.
Century Oil, No. 1 Howery, Harbor City, L. Angeles	25-	4-14	5,300	flow 620 b.d.
General Pet., No. 10 Poggi, Harbor City, Los Angeles	25-	4-14	5,105	O.S. drlg.
Macrate, A. N., No. 1 Kupfer, Harbor City, L. Angeles	25-	4-14	5,273	flow 100 b.d.
Macrate, A. N., No. 1 Holden, Harbor City, L. Angeles	25-	4-14	3,597	sd. sh. drlg.
D & B Oil, No. 2 Dawn, Harbor City, Los Angeles	25-	4-14	6,385	P.B. 6,325
Padran Oil, No. 1 McEwen, Harbor City, Los Angeles	25-	4-14	5,304	cleaning out
Richfield Oil, No. 1 Spring, Harbor City, Los Angeles	30-	4-13	5,202	flow 250 b.d.
Ring Oil, No. 1 Mahar, Harbor City, Los Angeles	25-	4-14	5,261	flow 630 b.d.
Ring Oil, No. 5 Hawkins, Harbor City, Los Angeles	25-	4-14	2,496	sd. sh. drlg.
Sunset Oil, No. 1 Security, Harbor City, Los Angeles	25-	4-14	4,580	sd. sh. drlg.
Severns Drlg. Co., No. 1 P.E., Harbor City, L. Angeles	25-	4-14	5,273	flow 200 b.d.
Sierra Trad., No. 1 Spring, Harbor City, Los Angeles	30-	4-13	5,300	O.S. drlg.
Wilton Oil, No. 6 Lomita, Harbor City, Los Angeles	25-	4-14	5,300	flow 360 b.d.
West. Talc., No. 1 Pierce, Harbor City, Los Angeles	25-	4-14	5,325	sd. sh. drlg.
Union Oil, No. 63 Callender, Dominguez, Los Angeles	32-	3-13	7,298	sd. sh. drlg.
Union Oil, No. 64 Callender, Dominguez, Los Angeles	33-	3-13	4,501	sd. sh. drlg.
Union Oil, No. 49 Hellman, Dominguez, Los Angeles	33-	3-13	7,363	redrlg. 6,670
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33-	3-13	9,110	P.B. 7,931
Selbar Oil, No. 1 Richfield, Dominguez, Los Angeles	3-	4-13	4,395	pump 195 b.d.
Fairfield, F. E., No. 1 Abel, Rosecrans, Los Ange.	19-	3-13	7,399	P.B. 5,850
Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	20-	3-13	7,655	redrlg. 4,351
Barnsdall Oil, No. 10 Rosecrans, Rosecrans, L. Ang.	20-	3-13	7,660	sd. sh. drlg.
Barnsdall Oil, No. 11 Rosecrans, Rosecrans, L. Ang.	20-	3-13	5,991	sd. sh. drlg.
Union Oil, No. 26 Rosecrans, Rosecrans, Los Angeles	19-	3-13	7,700	sd. sh. drlg.
Universal Consd., No. 6 Trust, Rosecrans, Los Angeles	18-	3-13	7,364	sd. sh. drlg.
Republic Pet., No. 1 Trust, Rosecrans, Los Angeles	18-	3-13	7,030	sd. sh. drlg.
Superior Oil, No. 11 Maxwell, Rosecrans, Los Angeles	20-	3-13	7,676	flow 2,050 b.d.
H. B. Oil, No. 1 Stevens, Rosecrans, Los Angeles	20-	3-13	7,830	fish. liner
Royalty Ser., No. 2 Gordon, Rosecrans, Los Angeles	19-	3-13	7,161	sd. sh. drlg.
West. Gulf Oil, No. 1 Bagg, Rosecrans, Los Angeles	17-	3-13	4,578	sd. sh. drlg.
Basin Oil, No. 2 Club, Potrero, Los Angeles	34-	2-14	5,890	sd. sh. drlg.
Tide Water A., No. 1 Porter, S. Fernando, L. Angeles	27-	3-16	5,393	flow 1,050 b.d.
Barnsdall Oil, No. 4 R.S.F., Newhall, Los Angeles	26-	4-17	5,690	sd. sh. drlg.
Newhall Associates, No. 4 Needham, Newhall, L. Ang.	13-	3-16	3,504	milling
Mojave Pet., No. 2 Jennings, Newhall, Los Angeles	33-	5-14	177	sd. sh. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles	8-	4-17	1,098	cleaning out
General Pet., No. 20 Harbor, Wilmington, L. Angeles	2-	5-13	4,040	flow 705 b.d.
General Pet., No. 29 Harbor, Wilmington, L. Angeles	2-	5-13	3,476	sd. sh. drlg.
General Pet., No. 17 S.P., Wilmington, Los Angeles	2-	5-15	3,170	sd. sh. drlg.
Bankline Oil, No. 1 Chuck, Wilmington, Los Angeles	35-	4-13	3,442	will deepen
Getty Oil, No. 4-W, Wilmington, Los Angeles	33-	4-13	3,594	will deepen
Michelin, J., No. 2 Comm., Wilmington, Los Angeles	32-	4-13	3,580	O.S. drlg.
Pacific West. Oil, No. 1 Comm., Wilmington, L. Ang.	33-	4-13	4,980	sd. sh. drlg.
Richfield Oil, No. 12-P.D., Wilmington, Los Angeles	2-	5-13	3,687	squeeze job
Richfield Oil, No. 21-P.D., Wilmington, Los Angeles	2-	5-13	2,277	sd. sh. drlg.
Union Pacific, No. 86, Wilmington, Los Angeles	3-	5-13	2,880	O.S. drlg.
Union Pacific, No. 92, Wilmington, Los Angeles	3-	5-13	3,971	flow 1,340 b.d.
Union Pacific, No. 93, Wilmington, Los Angeles	4-	5-13	2,784	sd. sh. drlg.
Union Pacific, No. A, Wilmington, Los Angeles	34-	4-13	3,174	sd. sh. drlg.
Union Pacific, No. 10-E, Wilmington, Los Angeles	3-	5-13	3,774	sd. sh. drlg.
Universal Consd., No. 3 Newport, Wilmington, L. Ang.	2-	5-13	2,159	sd. sh. drlg.
St. Helens Pet., No. 29 Monterey, Montebello, L. Ang.	2-	2-12	5,835	sd. sh. drlg.
St. Helens Pet., No. 2 Taylor, Montebello, L. Angeles	2-	2-12	5,600	tested wet
Union Oil, No. 3 Howard, Montebello, Los Angeles	2-	2-12	4,787	sd. sh. drlg.
Mon. Wesco, Inc., No. 1 Seavers, Montebello, L. Ang.	2-	2-12	6,458	O.S. drlg.
Pongratz Pet., No. 1 Martin, Montebello, L. Angeles	2-	2-12	6,432	O.S. drlg.
Standard Oil, No. 3 Harvey, Montebello, L. Angeles	2-	2-12	6,395	cmtd. 6,395
Standard Oil, No. 3 Braun, Montebello, Los Angeles	2-	2-12	6,470	flow 342 b.d.
Standard Oil, No. 1 Kaufman, Montebello, L. Angeles	2-	2-12	6,465	sd. sh. drlg.
Mont. Res. Oil, No. 1 M.L.&W., Montebello, L. Angeles	2-	2-12	5,897	sd. sh. drlg.
Hathaway Oil, No. 1 Dore, Montebello, Los Angeles	11-	2-12	7,250	looks good
Brit-American Oil, No. 1, Pico, Los Angeles	12-	2-12	6,741	sd. sh. drlg.
Caminol Co., Ltd., No. 2-10, North Long Beach, L. Ang.	13-	4-13	5,186	sd. sh. drlg.
Johnston Drlg., No. 35, North Long Beach, L. Ang.	13-	4-13	2,080	fault; abd.
Massey & Asso., No. 1 Taylor, Long Beach, L. Angeles	19-	4-12	3,940	sd. sh. drlg.
De Soto Oil, No. 1 Signal, Long Beach, Los Angeles	30-	4-12	9,298	sd. sh. drlg.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3-	5-12	5,225	cleaning out
Brea Canyon Oil, No. 49 Brea, Brea Canyon, Orange	2-	3-10	1,230	sd. sh. drlg.
Shell Oil, No. 20 Orange, Brea Canyon, Orange	2-	3-10	3,331	sd. sh. drlg.
Battersby, J. M., No. 1 Associates, Carmenita, Orange	21-	3-11	8,332	may deepen
Graham-Loftus Oil, No. 2 Perkins, E. Coyote, Orange	13-	3-10	2,800	sd. sh. drlg.
Shell Oil, No. 1 Herriman, Richfield, Orange	22-	3-9	1,777	sd. sh. drlg.
Goodrich Pet., No. 1 Paige, Richfield, Orange	28-	3-9	2,271	sd. sh. drlg.
McKeon, J., No. 1 New Fields, Sunset Beach, Orange	16-	5-11	3,165	sd. sh. drlg.
J. E. F. Oil, No. 1 Bruce, Huntington Beach, Orange	36-	5-11	1,943	sd. sh. drlg.
Southwest Expl., No. 1 State, Hunt. Beach, Orange	10-	6-11	2,532	sd. sh. drlg.
Southwest Expl., No. 2 State, Hunt. Beach, Orange	10-	6-11	1,994	sd. sh. drlg.
A. V. Oil, No. 1 Newport, Costa Mesa, Orange	16-	6-10	4,751	testing
So. Counties Oil, No. 1 Serrano, San Bernardino	22-	2-8	2,050	idle
Dauphin Dev., No. 1 Irwin, Ponto, San Diego	16-12-4		618	sd. sh. drlg.

KANSAS

Week Ending October 29 (Descriptions are East unless marked otherwise)

Barton County

C. L. Carlock and Atlantic Ref. Co. No. 1 Demel, NE NW Sec. 30-17-13w. Fsg. 3,127 ft.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. U.R. 2,730 ft.

I. W. Murfin No. 1 Birzer, NE SW Sec. 21-19-11w. S.D. 575 ft.

J. C. Shaffer, Inc., No. 1 Addie, SW NW Sec. 28-16-14w. Lansing 3,188 ft.; cd. 3,195-3,225 ft.; N.S.; drlg. 3,300 ft.

Butler County

Soloman & Alexander No. 1 Sawyer, SW NW SW Sec. 2-28-7. S.D. 183 ft.

Stewart & Gross No. 1-A Semisch, NW SE SW Sec. 34-27-7. Drlg. 2,110 ft.

Cowley County

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. Fsg. 3,192 ft.

Ben Gralapp and Continental No. 1 Community, NW Sec. 23-32-5. Bart. sd. 2,992 ft.; S.O. 3,010-14 ft.; drlg. 3,490 ft.

Dickinson County

Franks et al No. 1 Huffman, NW SW Sec. 11-13-1. Rng. 10-in. 1,177 ft.

Ellis County

Cities Service No. 2 Samuelson, C NE Sec. 36-11-17w. Drlg. 2,445 ft.

Grant County

Panhandle Eastern No. 1 Joyce, C SE Sec. 36-30-37w. Drlg. 2,523 ft.

Panhandle-Eastern No. 1 Parsons, C N½ SW Sec. 25-30-37w. Loc.

Panhandle-Eastern No. 1 Towler, C SE Sec. 20-30-37w. R.U.S.T. 2,471 ft.

Greenwood County

Z. Dunlap et al No. 1 Warren, NW NW SW Sec. 4-28-10. Drlg. 2,155 ft.

Harvey County

Derby Oil and Gary Drlg. Co. No. 1 Jones, CEL NE NW Sec. 7-22-1w. Drlg. 2,273 ft.

Lanahan Drlg. No. 1 Lagree, SE SE Sec. 4-23-3w. T.D. 280 ft.; S.D.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE Sec. 10-27-10w. T.D. 4,529 ft.; P.B. 4,086 ft.; swbg. 4 B.O.P.H.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW Sec. 7-19-2w. T.D. 2,760 ft.; S.D.

Western Kans. O. & R. Co. No. 1 Union, NW NE SW Sec. 18-17-1w. U.R. 2,010 ft.

Marion County

Cox & McGinnis and Saco Oil Co. No. 1 Jolliffe, C S½ SW SE Sec. 2-22-5. T.D. 1,175 ft.; S.D.

Johnson et al No. 1-A Miltz, SW SW SW Sec. 24-17-4. T.D. 2,275 ft.; S.D.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE Sec. 22-34-30w. T.D. 200 ft.; R.U.R.

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,435 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Fsg. 2,675 ft.

Ness County

C. L. Carlock and J. C. Shaffer No. 1 Smith, C SW SE Sec. 11-17-25w. Rmg. 1,155 ft.

Pottawatomie County

I. A. Turner No. 1 Unshide, C NE NW Sec. 32-8-9. H.F.W.; drlg. 1,455 ft.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Fsg. 4,857 ft.

Reno County

H. B. Garden No. 1 Strickler, NW Sec. 17-22-6w. R.U.S.T. 3,512 ft.

Rice County

Glimac Oil Co. No. 1 Malone, SE SW NW Sec. 36-20-10w. U.R. 2,690 ft.

Spurrier & Bruce No. 1 Cary, NE NW NW Sec. 30-18-8w. O.W.D.D.; O.T.D. 1,530 ft.; drlg. 1,680 ft.

Rooks County

Phillips Pet. Co. No. 1 Tanzey, C NW SW Sec. 25-8-18w. Drlg. 2,670 ft.

Producers No. 1 Ham (O.W.D.D.), SW NW Sec. 25-7-19w. O.T.D. 1,800 ft.; C.O.

Russell County

Phil-Han No. 1 Weimeister, SW Sec. 18-14-13w. Drlg. 410 ft.

W. I. Southern No. 1 Sellens, SW cor. Sec. 22-15-13w. Drlg. 2,155 ft.

Western Kans. O. & R. No. 1 Schneider, NE NW Sec. 35-15-14w. S.O. 3,128-31 ft.; Arb. 3,346 ft.; R.U.S.T. 3,352 ft.

Yankey & Stearnes No. 1 Krog, NW SE NW Sec. 7-15-13w. S.O. 2,420-24 ft.; drlg. 2,480 ft.

Sedgwick County

D. M. Crowe No. 1 Murphy, SW SE Sec. 34-29-1w. Drlg. 3,330 ft.

Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. S.D. 2,355 ft.

Stafford County

Stanolind O. & G. Co. No. 1 Curtis, SE cor. Sec. 31-21-12w. Viola 3,544 ft.; Arb. 3,638 ft.; R.U.S.T. 3,640 ft.

Sumner County

Cameron & Spencer No. 1 Frey, NW cor. Sec. 5-30-1e. Drlg. 1,083 ft.

Vickers Pet. Co. No. 1 Blue, CWL NW NW Sec. 1-33-2w. S.S.O. at 3,895 ft.; T.D. 3,950 ft.; S.D.O.

Thomas County

Ramsey Pet. Co. and John Mabee No. 1 Ryan, C NE SE Sec. 27-8-32w. T.D. 4,980 ft.; fsg.

Wabaunsee County

Fowler & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. S.D. 300 ft.

Woodson County

D. S. Alter No. 1 Snattinger, SW SE Sec. 3-26-14. Rng. 8-in. 800 ft.

M. J. Trott No. 1 Abbott, NW NE NE Sec. 21-25-14e. Drlg. 1,325 ft.

OKLAHOMA

Week Ending October 29

NORTHERN OKLAHOMA

Caddo County

Texas Co. No. 1 Smith, C NE NW Sec. 2-5-12w. T.D. 2,556 ft.; S.D.O.

Cleveland County

Big Chief and Gulf No. 1 Stratiger, NW NW SW Sec. 25-9-2w. Drlg. 6,965 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW Sec. 2-1-10w. Drlg. 1,630 ft.

Garfield County

Champlin Ref. Co. No. 1 Boehm, SW SW NE Sec. 4-24-8w. Viola 6,595 ft.; dolo. 6,625 ft.; 1st Wilcox 6,658 ft.; dry; 2nd Wilcox 6,690 ft.; F. 346 B.O. in 24 hrs., 8% wtr.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE Sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. S.O. 4,571 ft.; drlg. sh. 4,590 ft.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE Sec. 13-7-8. S.D. at 1,200 ft.

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. S.D. 3,098 ft.

Phillips Pet. Co. No. 1 Beeker, NE NW SW Sec. 8-5-10. T.D. 6,283 ft.; P.B. 5,639 ft.; est. 25,000,000 ft. gas; cmtg. 4,905-20 ft.

Phillips Pet. Co. No. 1 Moulder, SE SW SW Sec. 1-6-10. Drlg. 2,785 ft.

Jackson County

Lippert No. 1 Howard, NE SW NW Sec. 10-3-19w. O.W.D.D. Drlg. 1,510 ft.

Kay County

Atlantic O. & R. Co. No. 1 Watson, SE SE NW Sec. 28-28-1w. Drlg. 2,470 ft.; no shows.

Louis Blosser No. 1 Rudolph, NE NE SW Sec. 27-29-1w. T.D. 3,536 ft.; S.D. for heavy tools.

Crawford No. 1 Boehl, SE SE NW Sec. 34-27-2w. Drlg. 600 ft.

E. W. Hamilton No. 1 Riddle, NW cor. Sec. 3-26-4. Drlg. 1,450 ft.; H.F.W.

Tide Water Oil Co. No. 1 Hockman, NW NW NE Sec. 19-28-1. Wlx. 3,288 ft.; cg. 3,307 ft.

Kingfisher County

Burton Pet. Corp. No. 1 Zerger, C SE SW Sec. 5-18-6w. S.D. at 3,510 ft.; lost cones.

Kiowa County

Crawford & Zelliff No. 1 Kimray, SW SW NW Sec. 36-5-18w. Drlg. 354 ft.

R. L. Emerson No. 1 Handcock, SE SE NE Sec. 26-6-15w. C.O. 400 ft.

Hughes & Reese No. 1 Fultz, SE SE SE Sec. 10-6-18w. T.D. 1,238 ft.; W.O.C.

Lincoln County

Summit Drlg. Co. No. 1 Gordon, NE NE NE Sec. 27-17-2. Drlg. 2,470 ft.

Noble County

H. R. Hollenbach No. 1 Mathews, C SW NW Sec. 9-20-1. Miss. 4,932-35 ft.; S.D.O.

Phillips Pet. Co. No. 1-A Robertson, NW NE SW Sec. 29-24-1w. Drlg. 600 ft.

McClain County

W. A. Villines No. 1 Pearson, SE SW NE Sec. 13-5-3. T.D. 3,006 ft.; D.&A.

Okfuskee County

Lease Inv. Co. No. 1 fee, SE SW SE Sec. 21-13-10. Drlg. 2,540 ft.

Okmulgee County

Jim Wise Drlg. Co. No. 1 Morrow, SW NW NE Sec. 16-15-13. S.D.; wtr. 150 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. Drlg. 670 ft.

Payne County

Continental Oil Co. No. 1 Donahoe, NW SW Sec. 16-18-2w. Drlg. 4,932 ft.

Pittsburg County

J. Campbell No. 1 Featherstone, C N½ NW SW Sec. 19-3-12. Drlg. 300 ft.

Supreme Oil Corp. No. 1 Hickey, NW SW NW Sec. 4-2-15. T.D. 1,040 ft.; S.D.
Supreme Oil Corp. No. 1 Stevenson, SW SW SE Sec. 27-3-14. T.D. 1,300 ft.; M.I. rotary.

Pontotoc County

Jack Lynch et al No. 1-A Parker, SW SW SE Sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft.; S.D.
H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.
Union Dev. Co. No. 1-A Abbott, SW NW NE Sec. 34-3-6. T.D. 2,620 ft.; S.D.

Pottawatomie County

Hall & Briscoe No. 1 Merkle, NW NW SE Sec. 32-8-5. 1st Wlx. 4,385 ft.; 2nd 4,460 ft.; T.D. 4,476 ft.; 2,000 ft. W.I. H.; S.D.O.

Seminole County

Lesslie Rogers No. 1 Kidd, NE SW SE Sec. 33-10-8. T.D. 200 ft.; S.D.
J. F. Smith No. 1 Wolfe, NE NE SW Sec. 36-7-5. T.D. 2,987 ft.; shot and swb. 5 B.O. and 96 B.W. in 24 hrs.

Texas County

Republic Nat. Gas Co. No. 1 Bungler, CSL SE Sec. 13-6n-15ecm. T.D. 2,855 ft.; acd. and rec. 17,800,000 ft. gas; comp.
Republic Nat. Gas Co. No. 1 Judd, CSL SW Sec. 24-6n-15ecm. T.D. 2,870 ft.; gas 7,100,000 ft.
Republic Nat. Gas Co. No. 1 Thrall, C Sec. 22-6n-14ecm. 2,800,000 ft. gas at 2,638 ft.; acd. and rec. 9,400,000 ft. gas; T.D. 2,844 ft.; comp.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 8,550 ft.
L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. Drlg. 2,184 ft.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW Sec. 2-4s-10e. Arb. 2,843 ft.; T.D. 3,455 ft.; D.&A.

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. Drk.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,300 ft., sd.; S.S. O.; S.D.O.

Tillman County

Smith No. 2 Hammel, NE NW NW sec. 6-5s-15w. T.D. 2,380 ft.; recvd. D.P. and S.D.

ARKANSAS

Calhoun County

Samuel S. Alexander No. 1 Smythe, C NE NE Sec. 7-11-14. S.D. hd. sd. 3,085 ft.
C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec. 17-14-13. Top Nac. 2,372 ft.; top Tokio 2,920 ft. S.D. 3,110 ft.

Columbia County

Atlantic Ref. Co. No. 1 Garrett, C NW SW Sec. 13-17-20. Drlg. rd. sdy. sh. 6,610 ft.
Standard Oil Co. of La. No. 1 E. D. Harris, NW cor. NW SE Sec. 15-7-19. Drlg. hd. sh. 3,998 ft.
Standard Oil Co. of La. No. 4 McKean, SW cor. NW SW Sec. 8-16-22. Set 9⅝-in. csg. 2,063 ft.; T.D. 2,068 ft.; W.O.C.
Standard Oil Co. of La. No. 1 Minnie Harris, NE cor. NE SW Sec. 15-17-19. Drk.
Standard Oil Co. of La. No. 2 J. L. Warren, Sec. 18-16-22. Top Buckner 6,975 ft.; 6-in. csg. 7,218 ft.; comp.; 8½ B. P.H.; ¼-in. ck.; 20% asphaltic emulsion; T.D. 7,255 ft.; reacd.; swbd.; flwd. fluid from 4 to 40% b.s.; well flwd. through csg. 333 B.O. while bleeding down press.; prep. to rng. pmp.
Tide Water Seaboard No. 1 Beene, C SE NW Sec. 15-18-19. Top Cotton Valley 5,887 ft.; drlg. sdy. sh. 6,187 ft.
G. H. Vaughn No. 2 Garrett, C SE SE Sec. 14-17-20. D.S.T. 5,733-58 ft.; 15 min.; ¼-in. cks.; rec. 1,000 ft. drlg. fluid and show cut oil; W.P. 26 lbs.; top Bod. 7,259 ft.; top Smkovr. L. 7,318 ft.; top por. L. 7,346 ft.; D.S.T. 7,363-83 ft.; 6 min.; ¼-in. cks.; made 250 lbs. gas press.; 125 ft. drlg. fluid, 10 ft. 56.9-grav. oil; cd. L. 7,383-7,443 ft.; D.S.T. 7,403-23 ft.; ¼-in. cks. rec. 100 ft. drlg. fluid and stain dist.; 240 lbs. wet gas in 6 min.; cg. ahead.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.
C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. 10-in. csg. 63 ft.
Harford Oil Corp. No. 1 Pinning, C NE NE SW Sec. 6-13-30. Drlg. sdy. sh. 1,737 ft.
Herzek & Smith No. 1 Waldrop, SE cor. NW Sec. 4-13-31. S.O.; S.D. limey sh. 2,707 ft.
Joe G. Straham et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; S.D. 3,354 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson Townsite, Sec. 18-4n-9w. Set 4½-in. csg. on pkr. 1,540 ft.; drlg. hd. sdy. L. 2,406 ft.
J. W. Eddington No. 1 Anderson, S.D.
Lonoke Prairie Dev. Co. No. 1 T. Young, C NW NW Sec. 8-3n-7w. Set 10-in. csg. 150 ft.; U.R. 225 ft.
J. F. Russell No. 1 J. T. Gunter, SE cor. Sec. 17-5-10. S.D. 1,620 ft.

Madison County

Continental Oil Co. No. 2 Singer Mfg. Co., C Sec. 2-15n-11e. R.U.

Miller County—Rodessa

Gulf Ref. Co. No. 5 Johnson, SW cor. Sec. 29-15-15. R.U.
F. W. Martin & Co. No. 1 Watts, SE cor. SW NE Sec. 2-20-26. Drlg. anhy. 5,820 ft.
Red River Valley Oil Co. No. 1 Beck, Sec. 34-15-26. T.D. 3,008 ft.; reperf. ft.; tstd. S.W. and sd. 3,008 ft.; S.D.
Mrs. S. O. Thompson No. 1 Gen. Am. Life Ins. Co., SE cor. SE SW Sec. 20-14-26. Cg. 2,290 ft.

Mississippi County

Benedum & Trees Oil Co. No. 1 Mack, 330 ft. SW cor. NW SW Sec. 2-15n-12e. Top Nac. 2,160 ft.; set 7-in. csg. 2,897 ft.; T.D., hd. gr. L. 2,897 ft.; R. U.C.T.

Nevada County

Texas Canadian Oil Corp. No. 2 Stocks, NW SW SE Sec. 9-15-22. Top Nac. 1,206 ft.; T.D. 1,360 ft.; set 7-in. csg. 1,360 ft.; W.O.C.
O. F. Whittaker No. 1 Edwards, Sec. 3-15-20. Cd. brkn. sd.; S.O. 2,030-2,155 ft. set 6¼-in. csg. 2,030 ft.; W.O.S.R.; 60 ft. F.I.H. 2,155 ft.

Ouachita County

Gulf Ref. Co. No. 5 Johnson, SW cor. SE SW Sec. 29-15-15. 6⅝-in. csg. 1,973 ft.; drld. out to 2,030 ft.; pmpg.; no ga.

Pike County

Bruce Wallace No. 1 Tilyeu, NE cor. SE Sec. 26-8s-24w. Fsg. rk. bit 392 ft.

Pulaski County

A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW Sec. 2-1s-13e. S.D. 3,752 ft.

Union County—Schuler

Delta Drlg. Co. No. 1 Powledge, SW cor. NW NW Sec. 21-18-17. Drlg. rd. sdy. sh. 7,215 ft.
Fohs Oil Co. No. 1 Craig, C SE NE Sec. 5-18-14. Top Nac. 2,203 ft.; D.S.T. 20 min.; ⅜-in. cks.; rec. 40 ft. drlg. fluid; set 10¾-in. csg. 2,378 ft.; cg. 2,968 ft.
E. M. Jones No. 2-B Murphy Ld. Co., SW cor. S½ NE NE Sec. 13-18-18. Top Jones sd. 7,507 ft.; drlg. 7,611 ft.
Lion Oil Ref. Co. No. 1 Banks, NW cor. SW SE Sec. 12-18-18. Set 16-in. 116 ft.; W.O.C. 122 ft.
Lion Oil Ref. Co. No. 1 Cecil, SE cor., Lot 6, NW Sec. 7-18-17. R.U.
Lion Oil Ref. Co. No. 3 Dee, SW NW Sec. 17-18-17. Set 10¾-in. csg. 1,884 ft.; drlg. rd.&gr. sh. 4,085 ft.
Lion Oil Ref. Co. No. 8 Hardy Murphy, C NE NW Sec. 9-16-15. Set 7-in. csg. 2,443 ft.; top Graves sd. 2,392 ft.; perf. 2,390-93 ft.; pmpd. wtr. 2,390-93 ft.; recmtd. csg.; W.O.C.
Lion Oil Ref. Co. No. 7-B Hays, O.W. W.O., Sec. 3-16-15. Formerly comp. 2,121-24 ft.; T.D. 2,325 ft.; fsg. csg.
Lion Oil Ref. Co. No. 1 Henry, SE cor. Sec. 12-18-18. Top L. 7,622 ft.; 7-in. csg. 7,671 ft.; comp.; 416 B.P.D.; 16/64-in. ck.; T.P. 700 lbs.; C.P. 750 lbs.; perf. 7,580-7,610 ft.; T.D. 7,685 ft.
Lion Oil Ref. Co. No. 5 Marcus, Sec. 18-18-17. Drlg. rd.&gr. sh. 6,905 ft.
Lion Oil Ref. Co. No. 6 Marine, NW cor. SW NW Sec. 18-17-17. Drlg. rd.&gr. sh. 4,825 ft.
Lion Oil Ref. Co. No. 6 Mayfield, NW cor. Lot 3, NW Sec. 18-18-17. Top Jones 7,550 ft.; 7-in. csg.; top Smackover L.; T.D. 7,730 ft.; comp.; 47 B. P.H.; ¾-in. ck.; T.P. 375 lbs.; C.P. 550 lbs.; perf. 7,610-40½ ft.; T.D. 7,730 ft.
Lion Oil Ref. Co. No. 7-A Morgan, C S½ Lot 7, SW Sec. 18-18-17; drlg. rd.&gry. sh. 6,125 ft.
Lion Oil Ref. Co. No. 3 Nelson, C S½, Lot 6, SW Sec. 18-18-17. Drlg. sdy. sh. 6,610 ft.
Lion Oil Ref. Co. No. 4 Nelson, SW cor. Lot 5, SW Sec. 18-18-17. Set 16-in. 116 ft.; W.O.C.; T.D. 138 ft.
Lion Oil Ref. Co. No. 1 Powledge, SE cor., Lot 2, SW Sec. 7-18-17. Cd. top Jones sd. 7,597 ft.; 7-in. csg. 7,690 ft.; T.D. 7,700 ft.; comp.; 163 B.P.D.; 16/64-in. ck.; T.P. 1,000 lbs.; C.P. 1,500 lbs.; perf. 7,633-53 ft.
Lion Oil Ref. Co. No. 2 Sewell, NE cor. Sec. 13-18-18. Top Jones sd. 7,512 ft.; top L. 7,616 ft.; T.D. 7,690 ft.; 7-in. csg. 7,679 ft.
Marine Oil Co. No. 2 J. H. Calloway, NW cor. E½ SE NE Sec. 13-18-18. Cd. top Jones sd. 7,515 ft.; top L. 7,623 ft.; 7-in. csg. 7,707 ft.; perf. 7,555-95 ft.; comp.; 621 B.P.D.; 20/64-in. ck.; T.P. 550 lbs.; C.P. 1,150 lbs.; T.D. 7,707 ft.
Marine Oil Co. No. 3 Calloway, SE cor. S½ Lot 4, NW Sec. 18-18-17. R.U.
C. H. Murphy No. 1 fee, SE cor. SW NE Sec. 13-18-18. Drlg. rd.&gr. sh. 4,286 ft.
Phillips Pet. Co. No. 1-B Bryan, NW cor. NE SE Sec. 13-18-18. Cd. 7,513-25 ft.; top sd. 7,512 ft.; T.D. 7,700 ft.; top L. 7,620 ft.; 7-in. csg. 7,681 ft.; perf. 7,559-92 ft.; comp.; 750 B.P.D.; 24/64-in. ck.; T.P. 800 lbs.; C.P. 1,000 lbs.
Phillips Pet. Co. No. 1 El Dorado Bnk., SW cor. NW SE Sec. 12-18-18. 10¾-in. csg. 1,717 ft.; top Jones sd. 7,594 ft.; 7-in. csg. 7,732 ft.; T.D. 7,765 ft. perf. 7,620-46 ft.; comp.; 312 B.P.D.; 20/64-in. ck.; T.P. 375 lbs.; C.P. 600 lbs.
Phillips Pet. Co. No. 1 Edwards, SW NE Sec. 17-18-17. Top Jones sd. 7,630 ft.
Phillips Pet. Co. No. 2 Goodwin, Lot 1, NE Sec. 19-18-17. Top Jones sd. 7,564 ft.; perf. 7,585-7,601 ft.; comp.; 666 B. P.D.; varied cks.; T.P. 110 lbs.; C.P. 250 lbs.
Phillips Pet. Co. No. 1 Milling, SE cor. SW Sec. 7-18-17. Top Jones sd. 7,567 ft.; top L. 7,679 ft.; drld. to 7,730 ft.; 7-in. csg.; T.D. 7,730 ft.
Phillips Pet. Co. No. 1 Murphy, Lot 2, NW Sec. 19-18-17. Drlg. sdy. sh. 7,438 ft.
Phillips Pet. Co. No. 1 Nelson, Lot 3, NW Sec. 19-18-17. Drlg. rd. sdy. sh. 7,554 ft.
Phillips Pet. Co. No. 5 Sewell, NW cor. Lot 5, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 6,432 ft.

Union County—Other

J. R. Lockhart No. 1 Raulston, C Sec. 12-17-14. Comp. 1,500,000 ft. gas through perf. 2,968-76 ft.; R.P. 1,100 lbs.; O.T.D. 3,485 ft.
J. R. Lockhart No. 3 Raulston, SE cor. NW SE Sec. 12-17-14. Comp.; 25 B.P. H.; ⅝-in. ck.; set pkr. 2,943 ft.; T.P. 370 lbs.; C.P. 0 lbs.; 7-in. csg. 2,972 ft.; T.D. 3,003 ft.; top L. 3,002 ft.
Ohio Oil Co. No. 5 Furlough, 330 ft. N, 990 ft. E, C Sec. 12-17-14. R.U.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark.-La. Gas Co. No. 1-B Davis Bros. Lbr. Co., NW SW Sec. 7-16-4. 9⅝-in. csg. 2,557 ft.; D.S.T. 5,845-76 ft.; 50,000,000 ft. gas; open flow; 10 min.; ¼-in. cks. T.&B.; B.M.A. 5,640 ft.; b. stringer anhy. 5,753 ft.; drlg. sh.&L. 5,980 ft.
Producers O. & G. Co. No. 1 Graves & Thomas, SE cor. SW SE Sec. 23-15-10. Set 13⅜-in. 180 ft.

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. Sec. 10-22-11. S.D.; W.O. 2,750 ft.
Premier Inv. Co. No. 1 McDade, SE SW NE Sec. 28-19-11. T.D. 2,384 ft.; acd. with 1,000 gal.; csg. seat gave away; hole full S.W.
Premier Inv. Co. No. 45 Wyche, SE cor. N½ NW Sec. 14-19-11. Top sd. 277 ft.; 6⅝-in. csg. 280 ft.; comp.; pmpg. 25 B.P.D. 398 ft.
J. B. Stovall et al No. 3 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. 6-in. csg. 362 ft.; W.O.C.
Triangle Drlg. Co. No. 1-B Schuler, SE cor. SW NW Sec. 13-17-12. Top por. L. 3,113 ft.; set 5½-in. 3,110 ft.; acd. with 2,500 gal.; comp.; est. 125 B.P. D.; ½-in. ck.; T.D. 3,141 ft.

Caddo Parish

C. L. Ablinger No. 1 Gregory, NE cor. Sec. 3-20-11. Cg. 967 ft.
R. E. Allison No. 1 State, SE cor. Sec. 28-18-14. Top anhy. 4,068 ft.; T.M.A. 4,337 ft.; T.D. 5,618 ft.; por. L. 5,533 ft.; perf. csg. 5,575-90 ft. and tstd. dry; perf. 5,540-70 ft. and tstd. est. 5,000,000 ft. gas; ¼-in. ck.; T.P. 1,600 lbs.; C.P. 300 lbs.; 7-in. csg. 5,604 ft.; comp. 103 B.P.D. dist. and 3,469,000 ft. gas; ¼-in. ck.; T.P. 1,900 lbs.; C.P. 2,100 lbs.
Ark.-La. Gas Co. No. 1 Webb, C NW SW Sec. 4-16-13. R.U.
R. L. Bauman No. 1 Slattery Est., 660 ft. NW cor. Sec. 35-18-14. Set 13⅜-in. csg. 300 ft.; set 9⅝-in. csg. 2,053 ft.; top Pettit L. 5,541 ft.; top 5 ft. S.G.; next 14 ft. fairly good oil sat.; bal. to 5,575 ft. tight, odor O.&G.; to take another core and set csg.
F. W. Burford No. 1 Williams, SW cor. NW SW Sec. 4-23-15. Drlg. sh.&L. 4,387 ft.
Carney et al No. 2 Hart; O.W.W.O. Old T.D. 2,372 ft.; C.O. and arng. set 6-in. csg. 1,495 ft.; W.O.S.R. 1,800 ft.
W. D. Chew No. 4 Stiles, SE cor. NW Sec. 33-21-16. W.O.S.R. 1,870 ft.; 7-in. csg. set 1,856 ft.
W. D. Chew No. 5 Stiles, SW cor. Sec. 27-21-16. 4½-in. csg. 1,800 ft.; tstd. S.W. 1,908 ft.; P.B. 1,033 ft. and W. O.C.; O.T.D. 1,968 ft.; S.W.; abd.
W. D. Chew No. 6 Stiles, SW NE Sec. 28-21-16. Set 6-in. csg. 1,945 ft.; T.D. 1,954 ft.; tstd. S.W. 1,954 ft. and P.B. 1,944 ft.; drld. out to 1,954 ft.; tstd. S.W. and recmtg. csg. 1,954 ft.
Colonial Corp. No. 1 Thigpen-Herold, 330 ft. S and W. C Sec. 34-22-16. R.U.
Paul Cooper No. 2 Stiles, SW SE Sec. 28-21-16. Cg. 1,047 ft.
L. L. Davidson No. 4 Muslow, SE cor. NW SE Sec. 26-21-16. R.U.
Tony DeGrazier No. 1 Welsh, NE cor. Sec. 3-20-16. 7-in. csg. 925 ft.; tstd. S.W.; S.O. 968 ft.; W.O.S.R.
Falcon Oil Co. No. 2 Glassell-Youree, SE cor. Sec. 26-20-15. Tstd. dry; S.O.&S. W.; will acd.; T.D. 2,306 ft.; comp.; pmpg. 5 B.P.D.
M. M. Ferrell No. 1 Dyer, Sec. 10-20-16. Set 6-in. csg. 1,008 ft., T.D.; W.O.S.R.
G. W. Gibson No. 2 Muslow, SW cor. NW NW Sec. 6-20-15. Comp.; 25 B.P. D.; 6⅝-in. csg. 133 ft.; T.D. 1,575 ft.
Hillman et al No. 1 Gilbert, SW cor. Sec. 18-20-15. S.D. 2,180 ft.
Hollywood Oil Corp. No. 1 C.&B. Realty Co., C NE NE Sec. 22-17-14. B. ch. rk. 1,745 ft.; top anhy. 4,165 ft.; top Pettit sd. 5,674 ft.; no por.; top Tr. Pk. 5,957 ft.; T.D. no por. 6,009 ft.; P.B. 4,945 ft.; to test.
W. C. Knox No. 1 Burton, NW cor. Sec. 7-20-15. 6⅝-in. csg. 1,339 ft.; T.D. 1,575 ft.; used 3,000 gal. acd.; tstg.
C. D. Lee No. 1 Meyer, SE cor. Sec. 33-18-14. Drlg. anhy. 4,410 ft.
Ben Levy No. 1 Crystal fee, SW cor. Sec. 25-21-16. Tstg. 978 ft.
Manziel et al No. 3 Ramsey, NE SE Sec. 32-21-15. Set 5½-in. csg. 1,348 ft.
J. Ober & Sons No. 1 fee, SE cor. Sec. 36-21-16. Set 8-in. csg. 1,431 ft.; tstd dry 1,684 ft.; set 6-in. csg. 2,257 ft.; tstd. small spray O.&G.; csg. collapsed; T.D. 2,279 ft.
Oils, Inc., No. 1 Cazaux, sec. 10-16-13 D.&A. 3,500 ft.
J. T. Parks et al No. 1 Grayson, C SE SE Sec. 30-19-15. R.U.&S.D.
Rodessa O. & R. Co. No. 1 Chandler, C SW NE Sec. 34-18-14. Set 9⅝-in. csg. 2,067 ft.; D.S.T. 2,420-34 ft.; tstd. est. 5,000,000 ft. gas, 9 min.; ⅝-in. cks. T.&B.; rec. 270 ft. S.W.; drlg. sh. 3,408 ft.
J. E. Sedberry No. 1-A Dickinson, SW cor. Sec. 10-19-14. D.&A. 2,410 ft.
Harry Smith No. 1 Sproull, SE cor. Sec. 32-20-16. Set 5-in. csg. 1,411 ft.; tstd. dry 1,658 ft.
Southern Star Pet. Corp. No. 1 Muslow, SE NW Sec. 17-20-15. Pmpd. S.W.; arng. dpn. 1,860 ft.; S.D.
Tri-State Prod. Corp. No. 1 Stiles, SE cor. NE Sec. 28-21-16. Rng. csg. 1,850 ft.
Nat Wissman No. 5 Stiles, NW NW Sec. 6-20-15. Set 7-in. csg. 1,040 ft.; W.O.S. R.; T.D. 1,043 ft.

Claiborne Parish

Magnolia Pet. Co. No. 1-B Patton, C NE NW Sec. 13-20-5. Drlg. sh.&L. 5,020 ft.
Maritzky & Bibby No. 1 McClung, Sec 29-21-7. 6-in. csg. 1,819 ft.; T.D. 1,822 ft.
E. T. Oakes et al No. 2 Kilgore, C NW SE Sec. 28-21-5. Hd. to slightly por. L. 5,294-5,303 ft.; 5½-in. csg. 5,287 ft.; tstg. 5,324 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 6-12-16. Set 7-in. csg. 2,705 ft.; acd. with 3,000 gal. and tstd. est. 2,000,000 ft. gas; 400 lbs.; gas exhausted; will set tbg. and pkr. 2,761 ft.
Tippett Oil Corp. No. 1 Williams, SE cor. Sec. 31-13-11. R.U.

Grant Parish

R. E. Bevis No. 1 McDonald, NE cor. SW NE Sec. 30-9-1e. T.D. 1,710 ft.; S.D.; W.O.
Long & Porter No. 1 Swope, SE cor. NW SE Sec. 18-9-1e. R.U.
Fred Stovall No. 1 Mattheson, NW cor. Sec. 15-9-1e. Cg. 1,501 ft.

La Salle Parish

Georgetown Oil Co. No. 2 Baldridge, NW cor. NE NW Sec. 11-9-1e. Set 6-in. csg. 1,510 ft.; T.D. 1,525 ft.
F. W. Henslee No. 30 Urania, Sec. 7-10-2e. Comp.; pmpg. 15 B.P.D.; 6-in. csg. 1,535 ft.; T.D. 1,542 ft.
Trichell et al No. 1 Gallagher, NW cor. Sec. 31-9-2e. R.U.

Red River Parish

J. M. Forgetson No. 1 Marston, SE SE Sec. 30-14-10. Top gas sd. 960 ft.; 7-in. with 110 ft. perf. on bttm. at 1,074 ft.; tstd. S.W.; S.G. 1,074 ft.; S.W. and abd. 1,317 ft.; O.T.D. 1,713 ft.
N. W. Hunter No. 1 LeLong, NW cor. NW SE Sec. 33-12-10. R.U.
Magnolia Pet. Co. No. 59 Pugh, Sec. 12-12-11. Drlg. sdy. L. 3,949 ft.
J. C. Prine No. 3 Haynes, SW cor. Sec. 20-13-10. 5¾-in. csg. 2,510 ft.; D.D. to 2,560 ft.; W.O.S.R.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE Sec. 22-8-11. Used 1,500 gal. acd. and tstd. S.O. 2,587 ft.; arng. reacd. 2,587 ft.
W. D. Ambrose No. 1 Sabine, SW cor. SE Sec. 33-8-13. 6-in. 2,072 ft.; tstd. S.W. 2,534 ft. and P.B. 2,509 ft.; used 8,500 gal. acd. and tstd.; D.&A. 2,534 ft.
Earl F. Fox No. 1 Cook Ld. Co., SW cor. SE NW Sec. 1-9-12; O.W.W.O. O.T.D. 3,655 ft.
A. B. House No. 1 Sabine, NW NW Sec. 23-7-14. 8-in. csg. 2,134 ft.; used

7,000 gal. acd.; tstd. dry; arng. test 2,684 ft.

LeGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. Tstd. dry 2,-130 ft.; tstd. S.G.; acd. with 1,000 gal.; tstd. dry 2,340 ft.; will acd. 2,340 ft.

Major Oil Co. No. 5 Bowman Hicks, SW cor. SE NW Sec. 7-7-12. 7-in. csg. 2,-296 ft.; tstg. 2,328 ft.

Morris Co. No. 1-A Ervine & Bishop, C NE SW Sec. 14-7-13. Set 6-in. csg. 2,-177 ft.; arng. test 2,573 ft.

Richards & Holloway No. 1 Long Bell, C NW NE Sec. 15-7-13. 10-in. 95 ft.; 5½-in. 2,130 ft.; tstd. S.G. and used 5,000 gal. acd.; D.&A. 2,392 ft.

C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft. P.B. 2,585 ft.; tstd. dry S.D.; W.O. 2,-585 ft.

Sklar & Neighbors No. 1 Martinez, Sec. 11-7-13. 6-in. csg. 2,172 ft.; drlg. ch. rk. 2,267 ft.

M. S. Slagle et al No. 1 Chadwick, SW cor. SE NW Sec. 32-8-10. R.U.

C. H. Smith No. 1 Sabine Lbr. Co., NE cor. NW NW Sec. 9-7-13. Set 10-in. csg. 66 ft.

J. L. Spier No. 2 Hale, SW cor. NW SW Sec. 1-7-13. R.U.

Tropical Oil Co. No. 1 Long Bell Lbr. Co., Sec. 5-8-13. D.S.T. 3,192-3,254 ft.; tstg. 65 ft. mud; S.G. in 10 min.; S.D.; contr. depth, 3,507 ft.; tstd. S.G. 3,-204-12 ft.

Lee Whitehurst No. 2 First Natl. Bnk., C SE NW Sec. 14-7-13. 7-in. csg. 2,212 ft.; tstd. dry 2,301 ft.; used 3,000 gal. acd. and arng. to test 2,605 ft.

Zwolle Synd. No. 1 Mansfield Lbr. Co., Sec. 8-7-13. T.D. 4,323 ft.; 5-in. csg. 3,830 ft.; drlg. plug 4,323 ft.; 2,500 gal. acd.; perf. 3,730-70 ft.; tstd. dry; W.O. 3,770 ft.; O.T.D. 4,323 ft.

Tensas Parish

H. V. Schumacker No. 4 Mound Plantation, Sec. 29-11-12e. Rmg. to bttm.; T. D. 2,450 ft.

Webster Parish

Hunt Oil Co. No. 2 Davis Unit, C NW NW Sec. 24-21-10. Hollw. sd. 5,595-5,603 ft.; set 9⅝-in. csg.; did not test Hollwy sd.; drlg. sh.&L. 7,426 ft.

Hunt Oil Co. No. 10 Davis, C SE SE Sec. 13-21-10. Hollwy. sd. 5,674-78 ft. and 5,719-27 ft.; 9⅝-in. csg. 5,660 ft.; tstd. small S.O. 6,038 ft.; Hollwy. sd.; drlg. sh. 6,302 ft.

Hunt Oil Co. No. 20 Hope, C NE NW Sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd.; top Bodcaw sd. 8,165 ft.; top Davis sd. 8,479 ft.; hole cleaned of stk. D.S.; 7-in. csg. set 8,-469 ft.; T.D. 8,487 ft.

Hunt Oil Co. No. 22 Hope Est., C SE SW Sec. 24-21-10. Drlg. sh.&L. 5,430 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Hollwy. sd.; top "D" sd. 8,534 ft.; S.O. 8,534-50 ft.; drlg. 8,577 ft.

Magnolia Pet. Co. No. 4 Branton, NE cor. Sec. 6-22-9. Drlg. sh. 2,050 ft.

Magnolia Pet. Co. No. 1 Merritt Unit, C SW NW Sec. 14-21-10. Top Tr. Pk. 5,-715 ft.; no Holloway; 9⅝-in. csg. 5,-850 ft.; drlg. sd.&sh. 8,319 ft.

Magnolia Pet. Co. No. 1-C Pardee, C NW NE Sec. 17-23-11. Rmd. and set 9⅝ in. csg. 5,920 ft.; top lower Marine 7,998 ft.; 8,505-10 ft. strks. hd. sd., O. &G. odor; drlg. sdy. sh. 8,646 ft.

Midstates Oil Corp. No. 1 Weiori Lbr. Co. Unit, NE cor. NW Sec. 3-20-10. 9⅝-in. csg. 5,699 ft.; drlg. 8,117 ft.

Ohio Oil Co. No. 5 Bodcaw Acct. 5, Sec. 13-21-10. Drlg. L.&sh. 3,930 ft.

Ohio Oil Co. No. 51 Bodcaw Acct. 2, NE cor. Sec. 15-21-10. Set 9⅝-in. csg.; W. O.C. 5,992 ft.

Ohio Oil Co. No. 1 W. Cox, Acct. 2, SE cor. SW Sec. 15-21-10. No Hollwy. sd.; 9⅝-in. 5,714 ft.; drlg. sd.&sh. 7,668 ft.

Ohio Oil Co. No. 8 B. Sydney Hrs., SW cor. Sec. 16-20-10. Drlg. L.&sh. 4,991 ft.

Oliphant Oil Corp. No. 1 Fred Banks, C SE NW Sec. 2-20-10. Set 9⅝-in. csg. 5,616 ft.; drlg. sh.&sd. 7,473 ft.

Oliphant Oil Corp. No. 1 Gray & Stephens, C SE SW Sec. 35-21-10. Drlg. anhy. 4,564 ft.

Oliphant Oil Corp. No. 1-B Stewart, C NW NE Sec. 5-20-10. Top Tr. Pk. 6,-117 ft.; Holloway sd. 6,160-67 ft.; 9⅝-in. csg. 5,884 ft.; top "A" sd. 8,378 ft.; "B" sd. 8,578 ft.; drlg. sd. 8,621 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. No Hollwy. sd.; 9⅝-in. csg. 5,615 ft.; drlg. sdy. sh. 7,-737 ft.

Sibley Sabine No. 1 McDonald, NW cor. Sec. 32-17-9w. Drlg. sh.&L. 4,290 ft.

Stanolind O. & G. Co. and W. Delaney No. 1 Pardee-Coffee Unit, C NE Sec. 36-21-10. Set 13⅜-in. csg. 763 ft.

Stanolind O. & G. Co. and Hunt Oil Co. No. 1 Pardee-Coffee Unit, C NE NE Sec. 36-21-10. Drlg. sh. 5,770 ft.

Stanolind O. & G. Co. No. 1 Webster Inv. Co., C NE NE Sec. 35-21-10. 13⅜-in. csg. 737 ft.; no Hollwy. sd.; top Tr. Pk. 5,680 ft.; rng. 9⅝-in. csg. 6,-009 ft.

Woodley Pet. Co. No. 1 Couch, C NW SW Sec. 36-21-10. 13⅜-in. csg. 664 ft.; drlg. sh.&L. 4,855 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Clody-Primeaux, Sec. 61-12s-3e. T.D. 8,120 ft.; abd.

Continental Oil Co. No. 1 Francioi, Sec. 67-12s-3e. Drk.

Bancroft—Beauregard Parish

Geo. E. Lilly et al No. 1 W. K. Rice, Sec. 15-6s-13w. Drlg. sh. 1,610 ft.

Republic Prod. Co. No. 2 Columbia Ld. & Tmbr. Co., Sec. 16-6s-13w. T.D. 3,-400 ft.; P.B.; sdtrkd.; drlg. sh. 7,080 ft.

Republic Prod. Co. No. 2 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. T.D. 7,297 ft.; top oil sd. 7,260 ft.; 7-in. csg. 7,297 ft.; gas sd. 7,097-7,106 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bayou, Sec. 21-16s-12e. Drlg. by fish at 11,096 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 18 State, Sec. 18-22s-18e. T.D. 6,834 ft.; I.P. 364 B.P.D.; ⅛-in. ck.

Baton Rouge—East Baton Rouge Parish

Geo. Helis et al No. 1 Aztec Oil & Roy. Co., Sec. 41-8s-1w. Drlg. sdy. sh. 749 ft.

Wm. Helis No. 3 Duplantier, Sec. 65-7s-1w. Drlg. sdy. sh.&L. 4,482 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 9 Wilberts Sons Lbr. Co., Sec. 66-9s-11e. Drk.

Bayou Choctaw—West Baton Rouge

La. Crusader No. 4 Schwing, Sec. 29-8s-11e. R.U.

La. Crusader No. 5 Schwing, Sec. 29-8s-11e. Loc.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.; P.B. to 5,000 ft.; sdtrkd. at 5,000 ft.; drld. to 6,984 ft.; 9⅝-in. csg. 6,982 ft.; T.D. 8,266 ft., salt; P.B. 8,-150 ft.; D.S. stk.; sdtrkd.; drlg. sh. &L. 7,848 ft.

Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. T.D. 8,500 ft.; 9⅝-in. csg. 8,518 ft.; top salt 9,294 ft.; T.D. 9,295 ft.; P.B. 8,969 ft.; W. O.C.; set 680 ft. of 5½-in. csg. 8,997 ft.; perf. csg. 8,900-20 ft.; flwd. oil and wash wtr. for 20 hrs.; went dead; pull tbg.; perf. csg. 8,900-20 ft.; sqzd. with cmt.; perf. csg. 8,888-98 ft.; flwd. oil and S.W.; went dead; perf. csg. 8, 873-88 ft.; swbd. 113 B.O., 161 bbls. S.W.; abd.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 Hebert, Sec. 18-12s-8w. T.D. 10,521 ft.; P.B. 9,160 ft.; perf. csg. 9,140-57 ft.; I.P. 7 B.O. P.D. with 98% S.W.; prep. to W.O.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. Loc.

Texas Co. No. 5 State, Sec. 19-23s-20e. T.D. 6,240 ft.; sdtrkd.; T.D. 6,521 ft.; P.B.; sdtrkd.; T.D. 6,672 ft.; fsg.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; drlg. sd. 3,863 ft.

Magnolia Pet. Co. No. 23 Cameron Meadows, Sec. 21-14s-13w. Drlg. sh.&L. 2,-795 ft.

Chacahoula—LaFourche Parish

Sun Oil Co. No. 3 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. Drlg. sh. 2,219 ft.

Charenton—St. Mary Parish

H. L. Edwards et al No. 1 Robichaux, Sec. 30-13s-9e. T.D. 1,782 ft.; 5-in. csg. 1,777 ft.

Kinsley Oil, Inc., No. 1-B Hertel, Sec. 30-13s-9e. Loc.

Pan American Prod. Co. No. 10 Veeder, Sec. 30-13s-10e. Bldg. rd.

Convent—St. James Parish

Continental Oil Co. No. 2 Realty Operators, Inc., Sec. 16. Loc.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. S.D. 2,790 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 19 Community, Sec. 31-10s-2e. T.D. 7,280 ft., salt; P.B. 4,598 ft.; sdtrkd.; drlg. sh. 6,461 ft.

Humble O. & R. Co. No. 4 Landry, Sec. 34-10s-2e. R.U.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 22 State, Sec. 5-22s-16e. 13⅜-in. csg. 2,030 ft.

Edgerly Field—Calcasieu Parish

R. H. Kean et al No. 1 M. J. Muller et al, Sec. 29-9s-11w. Drlg. sdy. sh. 2,-805 ft.

Union Sulphur Co. No. 1 Ld. Sulphur Mining Co., Sec. 33-9s-11w. Drlg. sdy. sh. 2,986 ft.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. Drlg. sh.&shlls. 5,136 ft.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-16e. 9⅝-in. csg. 6,775 ft.; T.D. 9,933 ft., sh.&L.; P.B. 9,864 ft.; drlg. sh.&L. 9,-754 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, Sec. 40-17s-15e. T.D. 10,752 ft.; P.B. 9,178 ft.; 5-in. csg. 9,178 ft.; tstd. S.W. 9,093-96 ft.; tstg. at 8,880-85 ft.; showed S.W. flwg. 20 B.F.P.H.; 10/64-in. ck., 12% oil, balance S.W.; flwg. 70 B.F.P.H., 10% oil, 90% S.W.

Shell Pet. Corp. No. 6-B Realty Operators, Sec. 17-17s-15e. Dredge canal.

Garden Island—Plaquemines Parish

Texas Co. No. 30 State, Sec. 38-23s-33e. Drlg. sd.&sh. 6,116 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 1 Erwin, Sec. 14-9s-8w. Drlg. sh.&shlls. 2,410 ft.

Union Sulphur Co. No. 9 Castle, Sec. 13-9s-8w. T.D. 7,147 ft.; 5-in. csg. 7,147 ft. I.P. 153 B.O., 45% S.W.; ¼-in. tbg.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 1 State-QQ, Sec. 6-20s-19e. 13⅜-in. csg. 1,498 ft.

Hackberry—Cameron Parish

L. W. Capps et al No. 1 Duhon, Sec. 27-12s-10w. S.D. 75 ft.

Gulf Oil Corp. No. 24 Erwin, Sec. 13-12s-10w. Drlg. sd.&sh. 1,512 ft.

Stanolind O. & G. Co. No. 2 Kaugh, Sec. 28-12s-10w. T.D. 3,050 ft.; run elec. cg. test.

Superior Oil Co. No. 4 Benson, Sec. 30-12s-10w. Drlg. sh. 2,340 ft.

Texas Co. No. 16-B State-Hackberry, Twp. 12s-9w. Drk.

Texas Co. No. 24-B State, Sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 8,163 ft.; 7-in. csg. 8,050 ft.; perf. csg. 7,903-16 ft.; tstd. S.W.; P.B. 7,780 ft.; perf. csg. 7,763-74 ft.; W.O.S.R.

Union Sulphur Co. No. 7 Caldwell et al, Sec. 37-12s-10w. Drlg. sh. 1,256 ft.

Union Sulphur Co. No. 7 Hanzen, sec. 13-12s-10w. T.D. 4,165 ft.; P.B. 4,010 ft.; sdtrkd. 4,083 ft.; T.D. 4,142 ft.; P. B.; sdtrkd.; drlg. sdy. sh. 5,633 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, Sec. 37-17s-9e. Drlg. sh.&L. 11,494 ft.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur, Twp. 12s-5e. Top salt 3,642 ft.; base salt 3,741 ft.; top salt 7,880 ft.; T.D. 7,897 ft.; 7⅝-in. csg. 7,869 ft.

Jennings—Acadia Parish

W. T. Burton No. 6 Roboria, sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D. 6,997 ft.; sdtrkd. at 6,118 ft.; drld. to 6,178 ft.; sdtrkd. at 6,023 ft.; T.D. 6,-274 ft.; rmg.

Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). 10¾-in. csg. 1,512 ft. T.D. 6,882 ft.; P.B. 6,655 ft.; sdtrkd.; T.D. 6,953 ft.; 7-in. csg. 6,945 ft.

Frio Oil Co. No. 1 Iowa-Jennings, Sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft.; T.D. 6,170 ft.; twisted off drill collar; fsg.; sdtrkd. 5,550 ft.; T.D. 7,335 ft.; P.B. 2,965 ft.; sdtrkd.; drlg. sh.&shlls. 5,094 ft.

Frio Oil Co. No. 2 Iowa-Jennings, Sec. 45-9s-2w. 10¾-in. csg. 1,555 ft.; cg. sdy. sh. 5,346 ft.

Glassell & Glassell No. 4 McFarlain, Sec. 41-9s-2w. Drk.

Glassell & Glassell No. 6 Trushell, sec. 42-9s-2w. T.D. 8,005 ft.; 7⅝-in. csg. 7,-973 ft.; drlg. sh. 8,183 ft.

Guaranty Oil Co. No. 2 Houssere-Latrielle, Sec. 47-9s-2w. T.D. 1,750 ft.; 6-in. csg. 1,725 ft.

Gulf Oil Corp. No. 40 Arnaudet, sec. 48-9s-2w. Drlg. sd.&L. 5,491 ft.

Gulf Ref. Co. No. 1 Lamb, Sec. 45-9s-2w. Drlg. sdy. sh. 2,437 ft.

L. & L. Oil Co. No. 3 Houssiere-Latrielle, Sec. 47-9s-2w. 7-in. csg. 1,750 ft.; T.D. 1,841 ft., sd.; run screen.

Ladak Oil Corp. No. 7 Jennings, Sec. 46-9s-2w. T.D. 2,435 ft.

O'Mera et al No. 2 McFarlain, Sec. 41-9s-2w. R.U.

Port City Oil Co. No. 22 Jennings-Haywood, Sec. 41-9s-2w. T.D. 2,065 ft.; 7-in. csg. 2,035 ft.; I.P. 280 B.P.D.; ¼-in. ck.

Shell Pet. Corp. No. 5 Community, Sec. 40-9s-2w. Drlg. sdy. limestone 4,926 ft.

Stanolind O. & G. Co. No. 113 Crowley & Mineral Co., Sec. 48-9s-2w. R.U.

Superior Oil Co. No. 8 Jennings-Haywood, Sec. 41-9s-2w. Drlg. sdy. sh. 6,-973 ft.

Superior Oil Co. No. 15 Leckelt, Sec. 42-9s-2w. Drlg. sd.&sh. 7,345 ft.

Three Sands Oil Co. No. 2 Clement, Sec. 46-9s-2w. 6-in. csg. 1,700 ft.; T.D. 2,-467 ft.; run elec. survey.

Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; sdtrkd.; T.D. 3,300 ft.; well blew out; sdtrkd. while rmg.; T.D. 3,324 ft.; 4-in. csg. 3,301 ft.; I.P. 100 B.P.D.; ¼-in. ck.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien Adams, Sec. 9-17s-24e. Drlg. sh. 9,237 ft.

Texas Co. No. 12 LaFitte, Sec. 20-17s-24e. Drlg. sdy. sh.&L. 9,586 ft.

Texas Co. No. 10 Rigolet Cooperative Fur Co., Sec. 28-17s-24e. T.D. 10,188 ft.; 9⅝-in. csg. 10,188 ft.; perf. csg. 10,002-37 ft. and 9,995 ft.; I.P. 1,179 B.P.D.; ⅝-in. ck.; T.P. 845 lbs.

Texas Co. No. 1 Sch. Bd., Sec. 16-17s-24e. 13⅜-in. csg. 2,030 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 42 State-Lake, sec. 40-21-19e. Top salt 11,301 ft.; T.D. 11,333 ft.; 7-in. csg. 11,333 ft.; set 4,369 ft. of 5-in. csg. at 10,545 ft.; perf. csg. 10,460-10,530 ft.; would not flow; re-perf. csg. 10,460-10,520 ft.; rng. screen.

Lake Pelto—Terrebonne Parish

Texas Co. No. 21 State, sec. 8-23s-18e. T.D. 6,058 ft.; P.B. and sdtrkd.; T.D. 5,761 ft.; PB. 5,536 ft.; to sdtrk.; T.D. 6,048 ft.; P.B. and sdtrkd. 5,100 ft.; T.D. 6,041 ft.; P.B. sdtrkd.; T.D. 6,280 ft.; 7-in. csg. 6,200 ft.; perf. csg. 6,-105-35 ft.; fsg. for swab.

Texas Co. No. 22 State, Sec. 8-23s-18e. Bldg. drk.

Leesville—La Fourche Parish

Lincoln Oil Co. No. 6 State, Sec. 26-21s-22e. Drlg. sd.&sh. 4,063 ft.

Texas Co. No. 7 Leeville, sec. 27-21s-22e. T.D. 8,667 ft.; D.S. stk.; fsg.

Texas Co. No. 18 Leeville, Sec. 26-21s-22e. T.D. 3,922 ft.; P.B. 3,831 ft.; perf. csg. 3,798-3,830 ft.; I.P. 578 B.P.D.; ⅝-in. ck.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Laterre, Inc., Sec. 31-19s-19e. Dredge canal.

Humble O. & R. Co. No. 1 Robert Verret, Sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.; 13⅜-in. csg. 3,164 ft.; cd. oil sd. 3,463-65 ft.; 9⅝-in. csg. 9,056 ft.; T.D. 11,767 ft.; P.B. 9,520 ft.; perf. csg. 8,450-60 ft.; I.P. 43 bbls. dist. per day; ¼-in. ck.; T.P. 3,200 lbs.; C.P. 200 lbs.

Lockport—Calcasieu Parish

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). T.D. 6,733 ft.; P.B. 5,300 ft.; 7-in. csg. 5,-320 ft.; perf. csg. 4,607-11 ft.; tstd. S.W.; P.B. 4,441 ft.; perf. csg. 3,806-14 ft.; tstd. mud and S.W.; bailing.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 6 State-Lake Long, Twp. 17s-19e. 10¾-in. csg. 3,066 ft.; cg. shly. sd. 7,488 ft.

New Iberia—Iberia Parish

H. Fotiades No. 7 Gulf Ld., Sec. 25-12s-7e. Drk.

Wm. Helis No. 6 Bolivar, Sec. 56-12s-7e. Drlg. sdy. sh. 1,903 ft.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co. No. 5 Bryant, Sec. 25-12s-7e. Drlg. sd. 4,896 ft.

Texas Co. No. 1 Gonsoulin, Sec. 13-12s-7e. Drlg. L. 6,816 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 Staker, Sec. 33-8s-1e. 10¾-in. csg. 2,035 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 1 Rene Nezal. Drk.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 37 Orleans Lv. Bd., Sec. 23-18s-15e. S.D. 990 ft.

Western Gulf Prod. Co. No. 1 Paseale, Sec. 6-18s-27e. Loc.

Western Gulf Prod. Co. No. 1 Sam Treadway, Sec. 6-18s-27e. Drlg. sh. 1,-250 ft.

Quarantine Bay—Plaquemines Parish

Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, Sec. 17-19s-17e. T.D. 1,450 ft.; fsg.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; S.D.

Amerada Pet. Corp. No. 2 South Coast Corp., Sec. 35-15s-19e. T.D. 12,200 ft.; 4½-in. csg. 10,189 ft.; P.B. 12,164 ft.; perf. csg. 12,049-12,120 ft.; sqzd. perf.; drld. out to 12,135 ft.; perf. csg. 11,-840-11,960 ft.; swbd. S.W.; P.B. 7,296 ft.; perf. csg. 7,265-70 ft.; made sqz. job; W.O.C.

Amerada Pet. Corp. No. 3 South Coast Corp., Sec. 34-15s-19e. 11¾-in. csg. 2,-698 ft.; cg. soft sd. 7,263 ft.

Tide Water Oil Co. No. 1-A South Corp., Sec. 34-15s-19e. Drlg. sh. 9,760 ft.

Sorrento—Ascension Parish

Sorrento Pet. Corp. No. 2 White, Sec. 22-10s-4e. T.D. 1,940 ft.; 10¾-in. csg. 1,940 ft.; S.D.

South Roanoke—Jeff Davis Parish

Union Sulphur Co. No. 2 T. R. S. Farms, Sec. 23-10s-4w. T.D. 10,854 ft.; drlg. by fish at 9,075 ft.

Gueydan—Acadia Parish

Buckley et al No. 1 Mulvey Irrig. Co., Sec. 34-11s-1w. T.D. 4,180 ft.; S.D.

Burton-Sutton Oil Co. No. 1 Valerean-Simon, Sec. 37-11s-1w. Drlg. sh. 3,-614 ft.

Timbalier Bay—La Fourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.; P.B. and sdtrkd. 3,501 ft.; T.D. 6,545 ft.; drld. by jnk. to 6,-668 ft.; P.B.; 7-in. csg. 6,651 ft.; top salt 7,224 ft.; T.D. 7,268 ft., salt; P.B. 5,400 ft.; perf. csg. 5,330-40 ft.; tstd. 3,504 lbs. press.; reset screen; would not flow; reset screen; bailed dry; pulling screen.

Valentine—La Fourche Parish

Wm. Helis et al No. 4 Valentine Sugars, Inc., Sec. 2-17s-20e. Drlg. sdy. sh. 6,-200 ft.

Pan American Prod. Co. No. 2-A Community, Sec. 58-17s-20e. Drk.

Pan American Prod. Co. No. 2 Ducos-Abriabet, Sec. 10-17s-20e. T.D. 4,510 ft.; P.B. 3,189 ft.; sdtrkd. at 3,208 ft.; T.D. 3,739 ft.; 7-in. csg. 3,720 ft.; I.P. 149 B.P.D.; ¼-in. ck.

Venice—Plaquemines Parish

Tide Water Oil Co. No. 2 Buras Lve.

Dist., Sec. 23-21s-30e. 13⅜-in. csg. 1,695 ft.; top salt 3,400 ft.; T.D. 3,463 ft., salt.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 2 Haas, Sec. 44-3s-2e. T.D. 9,045 ft.; run 6-in. csg.
Continental Oil Co. No. 2 Ludeau-Haas, Sec. 44-3s-2e. Loc.
Continental Oil Co. No. 1 Phillip Fontenot, Sec. 44-3s-2e. R.U.
Continental Oil Co. No. 1 Adam Tate, Sec. 47-3s-2e. Drlg. sh. 7,102 ft.
Continental Oil Co. No. 2 Tate-McDaniel, Sec. 44-3s-2e. Drk.
Continental Oil Co. No. 2 Tate, Sec. 44-3s-2e. T.D. 9,078 ft.; 6-in. csg. 9,045 ft.
Continental Oil Co. No. 2 Vidrine Deville, Sec. 46-3s-2e. Drlg. sh. 8,904 ft.
Texas Co. No. 1 fee, Sec. 27-3s-2e. Drlg. sh. 8,254 ft.
Texas Co. No. 2 fee, Sec. 27-3s-2e. Loc.

Vinton—Calcasieu Parish

J. M. Donald et al No. 1 Gordon, Benchenstein-Flynn, Sec. 34-10s-12w. T.D. 1,000 ft.; W.O.C.

West Gueydan—Vermilion Parish

Pure Oil Co. No. 1 Vermilion Irrig. Co., Sec. 41-12s-2w. S.D. 9,865 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 Racea, Sec. 12-9s-6w. Drlg. sd.&sh. 3,276 ft.

S. LOUISIANA WILDCATS

Acadia Parish

P. D. Freeman No. 2 J. E. Settig, Sec. 17-7s-1w. S.D. 894 ft.; T.A.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. Drk.
Western Gulf Prod. Co., Sec. 16-10s-1w. Loc.

Assumption Parish

Humble O. & R. Co. No. 1 Milliken & Farwell Co., Inc., Sec. 79-14s-14e. Drk.

Avoyelles Parish

Magnolia Pet. Co. No. 1 W. G. Bowden, Sec. 7-2s-4e. Drlg. sdy. L. 8,175 ft.

Beauregard Parish

Republic Prod. Co. No. 1 Lutcher Moore Lbr. Co., Sec. 14-7s-12w. Drlg. sh. 8,210 ft.

Calcasieu Parish

Humble O. & R. Co. No. 1 Desire-Miller, Sec. 32-11s-6w. Loc.
Sun Oil Co. No. 2 Lutcher-Moore, sec. 12-8s-13w. T.D. 2,019 ft.; 13⅜-in. csg. 1,996 ft.; T.D. 8,951 ft.; P.B.
Wheeler Oil Corp. No. 2 Sch. Ld., Sec. 16-9s-7w. 15½-in. csg. 46 ft.; 10¾-in. csg. 1,299 ft.

Cameron Parish

Federal Royalty Co. No. 2 State-Calcasieu Lake, Twp. 13s-9w. Loc.
Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E. NW cor. SW¼ Sec. 9-12s-6w. T.D. 11,693 ft.; P.B. 11,384 ft.; perf. csg. 8,562-68 ft.; S.G. and went dead.
Pure Oil Co. No. 3 Calcasieu Natl. Bnk., Sec. 19-12s-4w. Drk.

Iberville Parish

California Co. No. 1 Schwing Lbr. Co., Sec. 96-10s-10e. Dredging canal.

La Fourche Parish

Texas Co. No. 1 La Terre, Sec. 1-20s-21e. T.D. 8,898 ft.; 9⅝-in. csg. 8,898 ft.; T.D. 11,135 ft.; 2,509 ft. 6⅝-in. csg. 11,135 ft.; perf. csg. 9,975-10,005 ft.; tstd. 21 stnds. dist.; perf. csg. 9,840-91 ft.; tstg.
Texas Co. No. 1 State-Catfish Lake, Sec. 77-19s-21e. Loc.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, Sec. 1-10s-13e. Drlg. sh. 8,235 ft.
W. T. Burton No. 1-B R. E. E. de Montluzin, Sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. T.D. 8,367 ft.; P.B. 7,775 ft.; sdtrkd. at 7,959 ft.; T.D. 8,165 ft.; 9⅝-in. csg. 8,165 ft.; T.D. 8,241 ft.; tstd. S.W.; D.S.T. 8,135-8,241 ft.; drlg. L. 8,337 ft.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, Sec. 16-4n-1e. Drk.
E. F. Kalb et al No. 1 Lee Lbr. Co., Sec. 9-5n-3e. S.D. 140 ft.

St. Bernard Parish

Gulf Ref. Co. No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. Drlg. sh. 5,200 ft.
Vendome Pet. Corp. No. 1 Kenilworth Plantation, Sec. 59-13s-14e. Bldg. rd.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. M.I.M.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, Sec. 97-11s-7e. T.D. 11,005 ft.; perf. csg. 8,925-35 ft.; making sqz. job; drlg. out cmt. retainer at 8,731 ft.

St. Landry Parish

Herton Oil Co. et al No. 1 Thistlephilte Lbr. Co., Sec. 60-4s-4e. Drlg. sh.&L. 10,200 ft.; well tried to blow out at 7,000 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hazel Burdin, Sec. 15-14s-12e. Cg. sh.&sd. 8,786 ft.
Texas Co. No. 6 State Lake Mongoulois, Sec. 10-10s-9e. T.D. 9,858 ft.; taking side wall cores.
Texas Co. No. 11 St. Martin Ld. Co., Sec. 21-8s-7e. Top salt 8,904 ft.; T.D. 9,404 ft.; 7-in. csg. 8,912 ft.; P.B. 7,175 ft.; drld. out to bttm.; using hole for geophysical work.

St. Tammany Parish

A. P. Portas No. 1 W. C. Forbes, sec. 33-7s-15e. Drk.

Terrebonne Parish

Shell Pet. Corp. No. 1 Peters, Sec. 73-18s-18e. T.D. 11,047 ft.; D.S. stk.
Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. 18⅝-in. csg. 101 ft.; T.D. 10,039 ft.; fsg.
Texas Co. No. 2 State-Coon Point, Twp 23s-14e. M.I. drlg. barge.

Vermilion Parish

Stanolind O. & G. Co. No. 2 F. Stovall, Sec. 88-14s-3e. Drlg. sh. 6,500 ft.

SOUTH MISSISSIPPI

George County

Ryan & Anderson No. 1 J. J. Newman, Sec. 9-1s-8w. S.D. 7,015 ft.

Wilkinson County

La. Crusader Oil Co. No. 2 Miss-Wiss Tbr. & Ld. Co., Sec. 35-4n-1w. S.D. 3,615 ft.

NORTH MISSISSIPPI

Calhoun County

L. C. Lucas No. 1 E. C. Boland, 400 ft. E and 500 ft. S, NW cor. SW Sec. 9-22n-6e. S.D. 751 ft.
S. & O. Properties, Inc., No. 1 G. C. Cooned, SE NE sec. 12-24n-8e. T.D. 2,300 ft., rd. bds.; S.D.

George County

Cleve Love et al No. 2 J. J. Newman Lbr. Co., C SW Sec. 9-1s-8w. Drlg. ch. 6,500 ft.; no report.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, sec. 13-7s-10w. S.D. 2,700 ft.

Hinds County

G. Jefferies No. 1 Gaddis Farms, Inc., 700 ft. W line, 545 ft. N line, SE¼ Sec. 26-7n-4w. S.D.; Wilcox 3,448 ft.
Cleve Love et al No. 1 S. F. Johnson, NE cor. SE¼ sec. 29-6n-1w. Set 7-in. csg. 3,355 ft.; drlg. sh. 4,140 ft.
Southern Nat. Gas Co. No. 1 Progressive Realty Co., SE SW Sec. 35-6n-4w. Top ch. 6,600 ft.; drlg. sdy. sh. 8,070 ft.

Montgomery County

Dr. T. H. Chichester No. 1 Mitchell, Sec. 36-20n-7e. Drk.

Pontotoc County

Chas. Croder No. 1 John B. James, Sec. 24-11s-6w. S.D. 15 ft.
Waldrop et al No. 1 Bray, Sec. 17-11s-1e. S.D. 310 ft.

Simpson County

Goodwill O. & G. Co. No. 1 Berry, sec. 33-2n-4e. S.D. 2,810 ft.
Cleve Love No. 1 N. E. Garner, SE cor SW NE Sec. 1-10n-17w. T.D. 27 ft.; S.D.

Yalobusha County

Acme Holding Co. No. 1 S. D. Boyle, NW NW Sec. 33-25n-7e. Cg. sh. 2,833 ft.

FLORIDA

Levy County

Florida Oil Discovery No. 2 Cedar Key Co., Sec. 9-15s-13e. S.D. for csg.; T.D. 3,986 ft.

Nassau County

St. Mary Oil Corp. No. 1 Hilliard, Sec. 19-4n-24e. T.D. 4,250 ft.; rmg.

Lake County

Union O. & R. Co. No. 1 Gulf Expln., sec. 17-24s-25e. S.D. 235 ft.

Suwanne County

J. W. Phillips Oil Expltn. Co. No. 1 Shilkett, Sec. 14-4s-14e. S.D. 50 ft. for csg.

TEXAS

Week Ending October 29

GULF COAST FIELDS

Hastings Field—Brazoria County

W. L. Goldston No. 3 fee, B.B.B.&C. Sur. Cg. sd. 5,989 ft.
Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.
Stanolind O. & G. Co. No. 11-C Moore, R. A. Magee Sur. T.D. 6,080 ft.; 7-in. csg. 6,080 ft.

Old Ocean—Brazoria County

Commerce Oil Co. No. 1 S. M. Patterson, Polly & Chance Sur. Bldg. drk.
Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. S.D. 8,878 ft.
Harrison & Abercrombie No. 2 Chenault, C. Breen Sur. Drlg. sh.&L. 9,010 ft.
Harris & Abercrombie No. 1 Fidelity O. & R. Co., Polly & Chance Sur. T.D. 10,074 ft.
Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. R.U.
Sun Oil Co. No. 1 Campbell, Chas. Breen Sur. 13⅜-in. csg. 1,566 ft.

Sandy Point—Brazoria County

Stanolind O. & G. Co. No. 1 Sharp, C. S. Gorbett Sur. No. 12. T.D. 3,766 ft.; P.B. to straighten hole.

West Columbia—Brazoria County

General Crude Oil Co. No. 1 Campbell Est., J. H. Bell Sur. Drlg. sh. 5,157 ft.
Hogg Bros. No. 4 fee, M. Varner Sur. Drlg. sh. 5,230 ft.
Texas Co. No. 9 Phillips, G. Tennille Sur. Drlg. sh.&L. 2,910 ft.
Texas Co. No. 4 Rebecca Goldman, G. Tennille Sur. Drlg. sd. 5,439 ft.
D. M. Wallace No. 3 Smith, G. Tennille Sur. Drlg. sh. 3,037 ft.

Cedar Point—Chambers County

Standard Oil Co. of Tex. et al No. 5-118 State. T.D. 6,000 ft.; rng. 7-in. csg.

Seabreeze—Chambers County

Sun Oil Co. No. 5 Acom, H.T.&B. Sur. No. 103. Drk.
Sun Oil Co. No. 1 Tate, H.T.&B.R.R. Sur. T.D. 8,634 ft.; P.B. 2,000 ft. to sdtrkd. at 2,609 ft.; drlg. sh. 7,559 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1-38 State (6,000 ft. S of field in Turtle Bay) 10¾-in. csg. 1,212 ft.; drlg. sd.&L. 4,995 ft.

Hitchcock—Galveston County

Maco Stewart No. 8 fee, J. Spillman Sur. Cg. 4,930 ft.

Bammel—Harris County

H. M. Lawrence and Geo. Lawrence No. 1 C. Ehrkardt, H. Simmons Sur. R.U.
Clinton—Harris County
Stanolind O. & G. Co. No. 2 Edwards Reels & Trobough Sur. Drk.

Eureka—Harris County

Jack Frazier No. 1 Emma Helberg, J. Reinerman Sur. R.U.
Jack Frazier No. 2 Hogg Bros., J. Reinerman Sur. 10¾-in. csg. 2,505 ft.; T.D. 7,762 ft.; cd. sd.; reperf. csg. 7,728-60 ft.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Means & McGehee No. 1-E Laura Lackner, H. Reinerman Sur. Loc.
Tide Water Asso. Oil Co. No. 1 H. H. Ford, J. Reinerman Sur. T.D. 8,113 ft.; 5½-in. csg. 8,700 ft.; perf. csg.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 3 W. E. Denman, J. Waugh Sur. Drlg. sh. 4,936 ft.
Amerada-Stanolind O. & G. Co. No. 1 Louis, G. Williams Sur. Drlg. 1,310 ft.
Amerada-Stanolind O. & G. Co. No. 1 Pastusek, J. Clarkson Sur. T.D. 6,850 ft.; tstg.
Amerada-Stanolind O. & G. Co. No. 2 Peters, W. K. Hamblin Sur. and Hogan Sur. R.U.
Amerada-Stanolind O. & G. Co. No. 2 White, Jas. Clarkson Sur. R.U.
Bridwell O. & G. Co. No. 1 Gibson, Geo. Ayers Sur. T.D. 6,860 ft.; 5½-in. csg. 6,860 ft.; perf. csg. 6,851½-55½ ft.; tstg.; no ga.
Bridwell Oil Co. No. 2 Gibson, G. Ayers Sur. T.D. 6,855 ft.; tstg.
E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Loc.
Housh & Thompson No. 1 G. L. Baines, Wiley S. Powell Sur. T.D. 1,245 ft.; rng. surf. csg.
Noble & Baker et al No. 1 A. R. Hillegeist, J. Clarkson Sur. Drlg. sh. 3,220 ft.
Sinclair Prairie Oil Co. No. 1 W. W. Goodykoontz, Wiley S. Powell Sur. 9⅝-in. csg. 1,321 ft.; T.D. 6,979 ft.; rng. csg.
H. E. Williams et al No. 1 Deacon, M. McFarland Sur. Cg. 6,827 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 20 Beamer, T. Choate Lge. Drlg. sh. 1,087 ft.
Humble O. & R. Co. No. 1 Fleming, W. D. C. Hall Sur. Drlg. sh. 2,967 ft.
Humble O. & R. Co. No. 4 Herman Hospital, T. Choate Sur. T.D. 6,044 ft.; comp; no ga.
Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 7 Kiesling-Dixon, T. Choate Sur. Drlg. sh. 1,510 ft.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.
Cordele—Jackson County
H. J. Porter No. 1 Woussi, Peter White Sur. Loc.
Trinity Drlg. Co. No. 1 Drushel, I.&G. N. Sur. T.D. 2,668 ft.; 7-in. csg. 2,665 ft.; tstg.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 3 McFaddin, S. A. Pace Sur. 10¾-in. csg. 1,532 ft.; drlg. sd.&sh. 6,497 ft.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. T.D. 7,726 ft.; tstd. oil on D.S.T. 7,711-21 ft.; P.B. 7,725 ft.; flwg. 36 obls. dist. daily through ¼-in. ck.; killed well; perf. csg. 7,717-20 ft.; flwg. 16 B.P.D.; ¼-in. ck. killed with wtr.; P.B. 7,698 ft.; P.B. 7,721 ft.; perf. csg. 7,720-22 ft.; well tried to blow out; D.P. stk.

LaBelle—Jefferson County

Sun Oil Co. No. 4 Broussard-Hebert, B. Blackman Lge. T.D. 8,675 ft.; 7-in. csg. 8,605 ft.; pmpg. wtr. into hole to kill press. in No. 3 Broussard; made sqz. job; dpnd. 8,680 ft.; fsg. for D.P. S.D.

Hardin—Liberty County

Atlantic Ref. Co. No. 2-B Johnston-Finley, H. B. Johnson Sur. Drlg. sh. 255 ft.
Geo. Echols No. 2 West, H. B. Johnston Sur. Cg. 7,510 ft.
Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.
Humble O. & R. Co. No. 5-A W. S. Partlow, H. B. Johnston Sur. Drlg. sh. 225 ft.
Tide Water Asso. Oil Co. No. 3 Cessna, A. B. Hardin Sur. Drlg. sh. 7,356 ft.

Bay City—Matagorda County

Hamman Expltn. Co. No. 3 Crooker, E. Hall Sur. Drlg. sh. 9,039 ft.; no report.
Hamman Expltn. Co. No. 2 Foote, E. Hall Sur. Drlg. 6,510 ft.; no report.

North McFaddin—Matagorda County

Ohio Oil Co. No. 1 Carlson, I.&G.N. Sur. No. 2. T.D. 6,995 ft.; rmg.

Orange—Orange County

Continental Oil Co. No. 17 Chesson, Wm. Dyson Sur. 10¾-in. csg. 1,014 ft.; cd. oil sd. 5,544-66 ft.; T.D. 5,571 ft.; 7-in. csg. on bttm.
Gulf Oil Corp. No. 1 La Fleur, Wm. Dyson Sur. Drlg. sh. 5,236 ft.
Gulf Oil Corp. No. 2 Orange Natl. Bnk., Wm. Dyson Sur. T.D. 5,986 ft.; 5½-in. csg. 5,890 ft.
John G. Mayo No. 1 Seales, Wm. Dyson Sur. 10¾-in. csg. 1,000 ft.

Segno—Polk County

Gulf Oil Corp. No. 14 Wing, I.&G.N. Sur. No. 14. T.D. 8,119 ft.; 5-in. csg. on bttm.

Spurger—Tyler County

Republic Prod. Co. No. 13 Hurd, N. Hurd Sur. T.D. 7,700 ft.; 7-in. csg. 7,644 ft.

GULF COAST WILDCATS

Austin County

Crown Cent. Pet. Corp. et al No. 1 Huehner, Renkestolz Sur. Loc.

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Humble O. & R. Co. No. 1 Masterson, Geo. Robinson Sur. Drlg. sh. 1,510 ft.
Normandie Oil Co. No. 1 M. A. Ramsey, H.T.&B. Sur. T.D. 6,911 ft.; abd.
Texas Co. No. 1 E. F. Davis, Sec. 36, T. Spraggins Sur., 3,900 ft. SE of Manvel field. 10¾-in. csg. 1,314 ft.; drlg. sh. 5,986 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
F. A. Gillespie et al No. 1 Kirby Lbr. Co., Chambers Co. Sch. Ld. Sur. T.D. 6,523 ft.; 5½-in. csg. 6,471 ft.; perf. csg. 6,415-34 ft.; flwg. oil and wsh. wtr.; well went dead; screen sanded up; M.I.R. to reperf. csg.
Humble O. & R. Co. No. 3 Nancy Flewellen, Benj. Winfree Sur. Spd.

Galveston County

F. J. Anderson No. 1 L. Lobit, Lot A. Subd. No. 6, J. M. Perry and E. M. Austin Lges. 10¾-in. csg. 2,520 ft.; T.D. 9,197 ft.; 7-in. csg. 9,197 ft.; perf. csg. 9,097-9,105 ft.; I.P. 301 B.P.D.; 9/64-in. ck.
H. C. Cockburn No. 1 O. H. Hardt-Stephen, F. Austin Sur., 2 mi. N of League City discovery well. R.U.
Sun Oil Co. No. 1 R. U. Humphrey, Ruben Barrow Sur. 16-in. csg. 122 ft.; 10¾-in. csg. 2,042 ft.; drlg. sh. 3,538 ft.

Harris County

Continental Oil Co. et al No. 1 W. T. Carter, Talcott Patching Sur. Loc.
Continental Oil Co. et al No. 1 Joe Hornberger, B. N. Cessums Sur. Drk.
Continental Oil Co. et al No. 1 J. J. Sweeney, Sec. 5, W.C.R.R. Sur. 10¾-in. csg. 1,026 ft.; T.D. 7,750 ft.; abd.
Jack Frazier et al No. 1 Delbert R. Lang, Reuben White Sur. 10¾-in. csg. 795 ft.; drlg. sh. 4,139 ft.
Jack Frazier et al No. 1 Griffith, Adams Smith Sur. M.I.M.

H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jackson County

Chapman Minerals Corp. No. 1 Bennett ranch, Valentine Garcia Sur. Loc.
Texas Co. No. 1 J. F. Weed. John D. Newell Sur. Drlg. sd. 7,710 ft.

Jefferson County

British American Oil Prod. Co. et al No. 1 Gladys City, J. A. Veatch Sur (SW flank of Spindletop). Drlg. sh. 6,039 ft.
I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 1 M. C. Todd, Wm. Carr Sur. T.D. 3,200 ft.; rng. protection csg.

Matagorda County

Maja Oil Co. No. 1 Robbins, A. Sheppard Sur. R.U.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. 10¾-in. csg. 700 ft.; drlg. sh. 7,127 ft. (cor.).
Housh & Thompson No. 1 E. B. Clary, Wm. S. Allen Sur. Drlg. sh. 3,439 ft.
Jack Frazier No. 1 Chase Natl. Bnk., D. Garrett Sur. 10¾-in. csg. 1,700 ft.; T.D. 8,515 ft.; abd.
Mills Bennett Prod. Co. No. 1 Victoria Griffin, Archibald Lge. 10¾-in. csg. 1,512 ft.; drlg. sh. 8,437 ft.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 380 ft.

Orange County

Sun Oil Co. No. 1 Lutcher-Moore Lbr. Co., B. Johnson Sur. T.D. 7,867 ft.; P.B.; sdtrkd.; drlg. sh. 7,087 ft.

Wharton County

Crown Cen. Pet. Corp. et al No. 1 Ruby Babcock, Samuel B. Middleton Sur. M.I.M.
Humble O. & R. Co. No. 1 Duncan, A. Edgar Sur. 13⅜-in. csg. 2,366 ft.; cg. sh. 7,390 ft.

S. W. TEXAS WILDCATS

Atascosa County

R. C. Stanley No. 1 Schumann, Simon Malone Sur. No. 1069. T.D. 1,700 ft.; 5½-in. csg. 1,542 ft.

Bastrop County

Ira Brown No. 1 T. W. Bailey, John Crutchfield Sur. No. 12. Loc.
R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. T.D. 2,041 ft.; rng. csg.
A. H. Tarver No. 1 McDuff, Josiah Wilbarger Sur. No. 5. Drlg. sh. 984 ft.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. D.S.T. 7,088-23 ft.; recvd. 1 thrib. of mud; S. S.O.; S.D. 7,177 ft.; 4¾-in. csg. 7,152 ft.; W.O.C.

Bee County

J. R. Bunn and J. G. Mayo No. 1 Sparkman, Asa Walker Sur. T.D. 4,210 ft.; abd.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. Drlg. sh. 613 ft.

Bexar County

M. S. Blackburn No. 1 Miller, Thos. Barwick Sur. No. 324. S.O. 151-225 ft.; S.D. 469 ft. T.D.; Dobie L.; S.O.
Lewis Ridder No. 1 fee, Jose Maria Barrera Sur. S.D. 245 ft.
B. Soltner No. 1 fee, Stephen Jett Sur. Drlg. 618 ft.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.; S.D. 501 ft.

Caldwell County

R. H. Dye No. 1 Voight, Wm. Watkins Sur. S.D. 2,640 ft.
Lincoln Pet. Co. No. 1 Withers, Wm. House Sur. Drlg. 1,510 ft.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogesberry Sur. Drlg. sh. 8,976 ft.; no report.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. S.D. 150 ft.

Duval County

W. H. Appell No. 1 Hagist, B.S.&F. Sur. No. 265. Drk.; abd.
Frank Gravis No. 2 Schallert, Seale, Morris & Seale Sur. No. 255 (Palagana salt dome). S.D. 3,452 ft.
Magnolia Pet. Co. No. 1 Duval Co. Rch. Co., E. Barrera Sur. No. 48. T.D. 3,403 ft.; abd.
Magnolia Pet. Co. No. 1 Duval Co. Rch. Co., G.C.&S.F.R.R. Sur. No. 189. Drk.
S. K. & C. et al No. 1 J. F. Welder, Nathaniel Tinsley Sur. No. 103. R.U.
F. P. Schwab No. 1 Welder, Sur. No. 103. Drlg. sh. 679 ft.
Texas Inland Corp. No. 1 Alice Adami, Arnold & Barrett Sur. No. 47. Loc.
R. A. Thompson No. 1 Parr. Julia Rogers Sur. No. 118. S.D. 5,022 ft.
W. A. Wagner No. 1 D. J. Welkel, John H. Gibson Sur. No. 497. R.U. and S.D.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Frio County

Humble O. & R. Co. No. 1 Houston et al, M. Rips Sur. 10¾-in. csg. 1,300 ft.; drlg. sh. 3,150 ft.
Humble O. & R. Co. No. 1 Schley, Jos. Travaider Sur. No. 174. 15-min. D.S.T. 3,520-51 ft. tstd. no press.; recvd. 175 ft. mud with oil odor and 180 ft. S. W.; 15-min. D.S.T. 3,595-3,617 ft. tstd. 45 ft. of mud, S.S.O.; recvd. 2,500 ft P.L.O.; D.S.T. 4,720-85 ft.; recvd. 396 ft. sulf. wtr.; D.S.T. Edw. L. 5,271-5,304 ft.; P.B. to 4,800 ft.; 7-in. csg. 4,699 ft.; swbg. 1½ B.O.P.H. plus small amt. of wash wtr. and acd.; P.O.P.; well pmpd. dry on last 4-hr. test; tstg.
Geo. Smith No. 1 Berry, T.C.R.R. Sur. No. 1. R.U.; spd.

Goliad County

J. A. English No. 1 Weiss, Cornelius Litts Sur. Drk.; no report.
Steinberge Pet. Corp. No. 1 Albrecht, T. Hancock Sur. Cg. 5,270 ft.
Sun Oil Co. No. 1 Lee Homer, John Payne Sur. Cg. sh. 8,226 ft.

Gonzales County

Hochheim Dev. Trust No. 1 Dubose, E. G. Coffman Sur. 10-in. csg. 37 ft.; S.D. 60 ft.
John Hueners et al No. 1 Bauer, R. E. Brown Sur. Drlg. 790 ft.

Guadalupe County

R. Hamill No. 2 Zuehl, Vicente Duran Sur. T.D. 635 ft.; abd.
A. D. King No. 1-A Rosenbrock, Vincente Duran Sur. No. 4. T.D. 1,882 ft.; Buda L.; 6-in. csg. 991 ft.
Pegg Bros. et al No. 3 Maierhoffer, L. H. Peters Sur. No. 50. T.D. 1,142 ft.; abd.
R. A. Williams No. 1 Weber. Guadalupe Torres Sur. Drlg. sh. 1,473 ft.; no report.

Hidalgo County

R. E. Hardin et al No. 1 E. M. Car, Hidalgo Co. Canal Subd., Lot 8, Blk. 8. Cg. sh. 7,385 ft.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,860 ft.; cmtd. 7⅝-in. csg. 5,247 ft. (protection string); drlg. sh. 9,100 ft.
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.; T.D. 9,618 ft.; 5½-in. lnr. set 8,369-9,618 ft.; tstd. S.W. 9,420-30 ft.; made sqze. job; P.B. 9,390 ft.; perf. csg. 9,372-80 ft.; swbd. S.W. and gas; perf. csg. 9,347-52 ft.; tstd. S.W.; perf. csg. 9,255-60 ft.; tstd. S. W.; perf. csg. 9,065-70 ft.; tstd. S.W.; perf. csg. 8,990-9,000 ft.; tstd. S.W.; perf. csg. 8,920-25 ft.; tstd. S.W.; perf. csg. 8,845-50 ft.; flwd. 24 bbls., 51-grav. dist. per day; ¾-in. ck.; killed to reperf.; sqz. off perf.; prep. to test 8,500-10 ft.; tstd. gas and S.W.; sqzd. perf. csg. 8,480-90 ft.; tstd. gas and S.W.; sqzd.; reperf. csg.

Jim Hogg County

Charles R. Fox No. 1 Canales, Marcelo Ynojosa gr. S.D. 5,333 ft.
Humble O. & R. Co. No. 3 Anna Kelsey Bass, San Raphel gr., 3,732 ft. N of Kelsey field discovery well. Drlg. sh. 1,212 ft.
Johnson & Robinson No. 1 Palacios, Mary Montgomery Sur. R.U.
Navarro Oil Co. No. 1 Guerra, Santa Teresa gr. (7,000 ft. SW discovery, Kelsey field). Loc.

Jim Wells County

LaSalle Viejo Oil Co. No. 1 R. Shaeffer, Martin Christian Sur., Sec. 11, M.I.M.
Magnolia Pet. Co. No. 1 Moreno, La Trinidad gr. Drlg. sh. 4,876 ft.
Magnolia Pet. Co. No. 1 Samuel Maun, Los Olmos y Loma Blanca gr. Loc.
Magnolia Pet. Co. No. 1 Romano, V. de Garcia Las Animas Sola gr., 1,126 ft. E of discovery well. Cd. sd., gas odor, 6,421-26 ft.; T.D. 8,302 ft.; rng. csg. to test gas sd. 6,421-26 ft.; 7-in. csg. 6,528 ft.
Presnall & Tsesmelis No. 1 Hoffman, Marcellino Lopez Sur. S.D. 6,012 ft.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. T.D. 7,318 ft.; rng. csg. to D.D.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Premont field). 18⅝-in. csg. 485 ft.; T.D. 5,107 ft.; sdtrkd.; T.D. 5,194 ft.; 8⅝-in. csg. 5,168 ft.; cg. sh. 6,647 ft.

Karnes County

M. W. Brown et al No. 1 Yanta, S. G. Hardaway Sur. R.U.
Suttle et al No. 1 McKinney, Luz Navarette Sur. Loc.

Kendall County

Carpenter No. 1 Seidensticker, A. Rodriquez Sur. No. 257. Drlg. 410 ft.
C. M. Dewey No. 1 Seidensticker, J. M. Cherino Sur. No. 18. Drlg. sh. 310 ft.
H. N. Reid No. 1 Marguardt, J. Travuso Sur. No. 150½. Drlg. L. 749 ft.

Kerr County

H. C. Starkey No. 1-A Saue, T.W.N.G. R.R. Sur. S.D. 100 ft.

Kimble County

Plateau Oil Co. No. 1 E. E. Bolts, S. Jones Sur. T.D. 1,863 ft.; P.B. 1,430 ft.; 7-in. csg. 1,415 ft.
Plateau Oil Co. No. 1 S. J. Davis, N. Mitchell Sur. No. 44. T.D. 415 ft. (corrected).
Plateau Oil Co. No. 1 Hunger, J. Dujner Sur. T.D. 1,837 ft.; 5½-in. csg. 1,765 ft.

Kinney County

C. B. Wardlaw No. 1 Standart, Meliton Valdez gr. S.D. 1,290 ft.; U.R.

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr. 68, Laguna Madre Bay, Lse. No. 528 T.D. 9,350 ft.; sdtrkd. 8,268 ft.; drlg. sh. 9,589 ft.

La Salle County

Lake-Tobian Oil Co. No. 1 O'Connor ranch. Blk 35, Bland & Nelson subd Drlg. 2,530 ft.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S. of Ezzell). Spd. and S.D.
Navarro Oil Co. et al No. 1 Brom, Wm. Strode Sur. T.D. 4,530 ft.; abd.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. S.D. 5,993 ft.

Live Oak County

R. H. Feltner No. 1 Reed, I.&G.N. R.R. Sur. 15. R.U.
Hanna et al No. 2 West, C. O. Ragland Sur. T.D. 4,356 ft.; abd.
Holland Oil Co. No. 1 Wallace, Cameron Co. Sch. Ld. Sur. S.D. 200 ft.; (cor.).
Luling O. & G. Co. et al No. 1 Northern Royalty Corp., Thos. Castillo Sur. Drlg. sh. 2,520 ft.
S. K. & C. Drlg. Co. No. 1 Etta Terrell, W. Daniel O'Boyle Sur. Abd. 1,584 ft.
Stewart Oil Co. et al No. 2 Nations, Sec. 18, Simmons subd. Drlg. 40 ft.

McMullen County

Barbara Oil Co. No. 1 Edrington, A.B.& M. Sur. No. 79. T.D. 3,100 ft.; abd.
Mid-Western Pet. Corp. No. 2 Byrne, Geo. Pittuck Sur. No. 7. T.D. 1,005 ft.; abd.
Scarborough & Biglane No. 1 Matula Emmitt, Jas. Garner Sur. No. 6. T.D. 880 ft.; C.O.
Shumway & Burns No. 2 Shiner, Sec. 53 of Shumway subd. of Shiner rnch. R.U.
Taylor Ref. Co. No. 1 Nueces Ld. & Lvstk. Co., B.S.&F. Sur. No. 115. Loc.

Maverick County

Rio Dev. Co. No. 5 State Bnk. & Trst. Co., G.C.&S.F.R.R. Co. Sur. No. 1. S.D. 45 ft.
Wellington Oil Corp. and Humble O. & R. Co. No. 1 Indio Cattle Co., Antonio Revas gr. S.D. 3,237 ft. in chk.

Medina County

C. H. Gannon et al No. 1 Saathoff, G. L. Hemeken Sur. No. 833. Drlg. sh. 185 ft.
A. D. Gaston No. 1 Rogers, Henry Wilson Sur. T.D. 949 ft.; 6⅝-in. csg. 805 ft.; pmpg. 1 B.O.P.D.
Victor Ziegler No. 1 Paul Haby, Wm. G. Still Sur. No. 1. T.D. 81 ft.
Ziegler et al No. 1 Wiemers, F. Thurmm Sur. S.D. 905 ft.

Nueces County

Humble O. & R. Co. No. 1 Michalek, Lots 4 and 5, Sec. 97, Bishop Out Lot subd. Drlg. sd. 2,096 ft.
Phillips Pet. Co. No. 1 Masten, Blk. 146, Delores I. & A. Co. Sur. Drlg. sh. 6,997 ft.
Seaboard Oil Co. No. 1 Ellen C. Wilson, Jose Vicente Lopez de Herrera gr. Drlg. sh. 1,733 ft.
Stanolind O. & G. Co. No. 1 Geo. R. Clark, Nueces Co. Winter Vegetable Gardens. Loc.
Texas Co. No. 1 E. Little et al, Wm. Little Sur. 10¾-in. csg. 1,174 ft.; T.D. 7,746 ft.; fsg.
Union Prod. Co. No. 1 Minnie Brown (Agua Dulce area). Drlg. sh. 11,657 ft.

Real County

Blakely Smith et al No. 1 Love Ranch, H.E.&W.T.R.R. Co. Sur. R.U.

Refugio County

Darby Pet. Co. No. 1 Rooke. J. M. and G. Cobian Sur. 10¾-in. csg. 1,560 ft.; cg. sh. 6,020 ft.
G.S.I. No. 2 Spaulding Aldrete, 6¼ Lge. gr. Drlg. sh. 4,977 ft.
G. S. I. et al No. 1 Yarrow, Aldrete 6½ Lge. (LaRosa field). Drlg. sh. 5,880 ft.
J. W. Heard et al No. 1 Hudson, Estaben Lopez Sur. T.D. 7,020 ft.; abd.
Rutherford Oil Corp. No. 1 H. A. Schirmer, Sec. 1, Aldrete Sur. Cd. S.W. sd. 5,924-30 ft.; T.D. 6,331 ft.; recvd. 600 ft. oil; D.S.T. 6,322-27 ft.; T.D. 6,513 ft.; 7-in. csg. 6,396 ft.; perf. csg. 6,323-26 ft.; tstd. S.W.

San Patricio County

Frank Grote et al No. 1 F. G. Carlock, Eliz. Tally Sur. A-261. 10¾-in. csg. 1,119 ft.; T.D. 7,143 ft.; perf. csg. 7,124-33 ft.; flwg. est. 5 B.O.P.H.; ½-in. ck.; T.P. 450 lbs.; C.P. 1,050 lbs.

Starr County

Circle Oil Co. No. 1 Sabas Olivarez, C. C.S.D.&R.G.N.G. Sur. No. 241. Drlg. 2,720 ft.
Sun Oil Co. No. 1 A. Olivarez, C.C.S.D. &R.G.N.G. Sur. No. 239 (Sun field). Recovered 650 ft. of S.W. on D.S.T. 5,170-95 ft.
Sun Oil Co. No. 1 Speer, Sec. 274 (1 mi. SW of discovery well. Recovered S.W.; D.S.T. 5,549-67 ft.; cg. 5,627 ft.

Travis County

W. P. and O. A. Wolter No. 2 Johnston, Jas. Burleson Sur. T.D. 680 ft.; abd.

Webb County

Houser & Campbell No. 1 Puig, Edrington subd. of Alberca De Arriba gr. Drlg. 50 ft.
Wm. R. Spice No. 1 Garcia, Los Ojuelos gr. T.D. 2,019 ft.; abd.

Williamson County

F. J. Anderson No. 1 Teichelman, Absalam Jett Sur. S.D. 2,999 ft.
Duvall Oil Co. No. 1 Gustafson, Rutersville College Sur. Drlg. L. 2,185 ft.
Fritz Fuchs No. 1 Cain, T. J. Bird Sur. S.D. 50 ft.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, L. Manchoca Sur. S.D. 3,061 ft.

Victoria County

Wellington Oil Co. of Delaware No. 1 Boothe, Indianola R. R. Co. Sur. No. 10. Drlg. 2,896 ft.

EAST TEXAS

(Border Counties)

Cass County

Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Tstd S.W. and S.O. 5,987 ft.; P.B. 5,967 ft and top Young sd. 5,998 ft.; set 58 ft. of 4½-in. csg. 5,998 ft.; T.D. 6,000 ft.; tstd. dry 6,000 ft.; perf. csg. 5,904-44 ft.; tstd. dry 5,944 ft.; ripped csg. 5,968-73 ft.; swbg. S.W. and S.O.; S.D.; W.O.

Harrison County

F. H. Barnwell No. 1 Smith, A. P. Hope Sur. Drlg. 1,365 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1-B Braden Unit, Devalt Sur. Drlg. L.&sh. 5,017 ft.
Ark.-La. Gas Co. No. 1 Hussey, Chas. Lockhart Sur. Top anhy. 5,275 ft.; T. M.A. 5,540 ft.; D.S.T. 6,033-51 ft.; 60 ft. mud-cut oil and 20 ft. S.W. 25 min.; set 5½-in. csg. 6,045 ft.; perf. 5,902-37 ft.; tstd. 4,000,000 ft. gas; open flow; C.P. 1,500 lbs.; T.P. 1,300 lbs.; will acd.; T.D. 6,012 ft.; O.T.D. 6,051 ft.; comp.; 33,000,000 ft. gas; R. P. 2,300 lbs.; used 5,000 gal. acd.
Bender & Killingsworth No. 2 J.&N.W., Wm. Smith Sur. Drk.; (cor.).
Cable Tool Drlg. Co. No. 1 Schellinger, John Hanks Sur. R.U.
Fohs Oil Co. No. 1 Davis, Wm. Smith Sur. Drlg. sh.&L. 5,195 ft.
Gulf Oil Corp. and Ohio Oil Co. No. 1 H. Davis, 30-ac. tr., Hanks Sur. Perf. 6,071-85 ft.; swbd. dry; T.D. 6,101 ft.; comp.; 220 B.P.D.; ¼-in. ck.; T.P. 210 lbs.; C.P. 400 lbs.; used 2,000 gal. acd.
Gulf Prod. Co. No. 2-A Ray, John Hanks Sur. Drlg. sh. 1,596 ft.
Hollandsworth Drlg. Co. No. 2 Davis, Wm. Smith Sur. Set 5-in. csg. 6,004 ft.; swbg. to test 6,026 ft.
Illinois Oil Co. No. 2 Hale, John Hanks Sur. Drlg. anhy.&sh. 5,686 ft.
Shell Pet. Corp. No. 1 Fant, Coy Sur Hd. por. 6,054-67 ft.; 5-in. csg. 6,066 ft.; T.D. 6,067 ft.; comp.; 192 B.P.D.; ¼-in. ck.; T.P. 350 lbs.; C.P. 960 lbs.; perf. 6,048-61 ft.
Shell. Pet. Corp., No. 1 Stephenson, G. Perry Sur. R.U.
Texas Co. No. 1 Braden, J. M. Fitzgerald Sur. Set 7-in. csg. 5,974 ft.; T.D. 6,006 ft.; comp.; 240 B.P.D.; ¼-in. ck.; T.P. 25 lbs.; C.P. 800 lbs.
Texas Co. No. 2 Braden, Jos. M. Fitzgerald Sur. Drlg. sh.&L. 3,958 ft.
Union Prod. Co. No. 10 Hutchinson, A. D. S. Coy Sur. R.U.
Wrather & Lapin No. 1 Davis, Wm. Smith Sur. Cg. 6,014 ft.

Marion County—Other

Capps Bros. Lbr. Co. No. 2 Stiles, Wall Sur. T.D. 2,394 ft.; swbd. dry; shot with 2 qts. nitro at 2,334 ft.; tstd. dry; S.D. 2,394 ft.
Carroll & Tooke No. 2 Fitzgerald, N. Gumpton Sur. D.&A. 1,150 ft.
Geyer Oil Co. No. 6 Vincent, C. Davenport Sur. T.D. 2,408 ft.; tstg.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. S.D. 5,885 ft.; W.O.

Shelby County

Redditt & Gray No. 1 Pickering Lbr. Co., Childers Sur. Drlg. sh.&L. 4,200 ft.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. S.D.O. 4,492 ft.
Olson Drlg. Co. No. 1 Lockhart-Brown, 5 mi. W of south end of Fuhrman pool. S.D. 4,981 ft.
Texas Co. No. 1-H University, Sec. 4, Blk. 14, Univ. Sur. Drlg. 4,215 ft.
J. W. Trippiehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. Drlg. 4,395 ft.
L. H. Wentz No. 1-L W. F. Cowden, Sec. 3, Blk. 43, T.&P. Sur. W.O.C. 4,040 ft.
H. C. Wheeler No. 1 White-Shelton, Sec. 18, Blk. 36-A, P.S.L. Sur. Drlg. 4,544 ft.

Cochran County

Magnolia Pet. Co. No. 1 Della Wright, Lab. 7, Lge. 96, Mills Co. Sch. Lds. Sur. D.&A. 5,045 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, Sec. 39, Blk. W, T.&P. Sur. S.D. 1,861 ft.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, Sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.

Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. Drlg. 2,825 ft.

Ector County

Fields et al No. 1 Owenwood, sec. 6, Blk. 44, T.&P. Sur. Prep. treat 4,501 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. S.D. 3. 571 ft.

Gaines County

Atlantic Refg. Co. No. 1 A. J. & J. J Parker, Sec. 264, Blk. G. W.T.R.R. Sur D.&A. 5,290 ft.

H. J. Brown No. 1 A. L. Wasson, Sec. 51, Blk. AX, P.S.L. Sur. Prep. run 7-in. 4,925 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, Sec. 25, Blk. 2, H.&G.N. Sur. Drlg. 7,933 ft.

Glasscock County

Crusader Pet., Inc., No. 1 A. D. Neal, Sec. 20, Blk. 33, T.&P. Sur.; 3,200-ft. test. M.I.M.

Hockley County

Snowden & McSweeney No. 1 A. A Slaughter, Zavalle C.S.L. Sur., Lge 35, Lab. 74. T.D. 5,069 ft.; 400 ft. O. I.H.

The Texas Co. No. 1-B Mallett Lands Lab. 1, Lge. 52, Scurry C.S.L. Sur Est. 50 B.O. in 2 days.

Howard County

Parten & Strickland No. 1 O'Daniel, Sec. 39, Blk. 30, T.&P. Sur. Drlg. 2,405 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. Setting 5-in. csg. 5,022 ft.

Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 5,007 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. W.O.C. 4,450 ft.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. Tools out; making 500,000 ft. gas 1,270 ft.; S.D. 1,270 ft.

Pecos County

E. B. Carruth Tr. No. 1 J. H. Tippett, Sec. 4, Blk. 194, G.C.&S.F. Sur. S.D. 30 ft.

Helmerich & Payne et al No. 1 Dow Puckett, Sec. 86, Blk. 3, T. & P. Sur.; 3,500-ft. test. D.&A. 3,502 ft.

Humble O. & R. Co., No. 1 A. H. Robertson, Sec. 27, Blk. OW, T.C.R.R. Sur.; 4,500-ft. test. Drlg. 4,572 ft.

O. E. Schade No. 1 Neville, Sec. 72, Blk. 194, G.C.&S.C. Sur.; 2,500-ft. test. C.O. 786 ft.; H.F. sul. wtr.

S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Fsg. 7,342 ft.

Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. Drlg. 700 ft.

William No. 1 Maud S. Sanger, Sec. 10, Blk. 135, T.&St.L. Sur., 3,000-ft. test. Loc.

Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, Sec. 6, Blk. 9, H.&G.N. Sur. S.D. 1,700 ft.

Reagan County

John W. Emch No. 1 T.&P. Ld. Trust, Sec. 203, Blk. 1, T.&P. Sur. S.D. to test S.O. 2,560-2,640 ft.

Reeves County

Ohio Oil Co. No. 1 Papham, Sec. 18, Blk. 54, T.&P. Sur. S.D.R. 4,955 ft.

Runnels County

Castor-Koerner & Goodrich No. 1 Beddo Subdiv. 41, T. T. Williamson Sur. No. 15½, S.D. 2,272 ft.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, Sec. 130, Blk. 97, H.&T.C. Sur. Tstg. 2,366 ft.; P.B. depth.

Sterling County

J. W. Sward No. 1 Brennand, Sec. 107, Blk. 2, H.&T.C. Sur. S.D.O. 3,011 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch Sur. Fsg. 5,118 ft.

J. B. Watson No. 1 Llano, C.S.L. Sur., Sec. 16. No report; T.D. 705 ft.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. S.D.: csg. 150 ft.

Val Verde County

A. W. Little No. 1 R. W. Sellers, Sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. S.D.R. 1,060 ft.

Ward County

Herschel M. Jaffe No. 1 Viola Meyers, Sec. 17, Blk. 32, H.&T.C. Sur. Drlg. 1,585 ft.

Herschel M. Jaffee No. 1-B Viola Myers, Sec. 17, Blk. 32, H.&T.C. Sur. Drlg. 135 ft.

Winkler County

S. W. Richardson No. 1-A J. M. Brochara, Sec. 22, Blk. 77, P.S.L. Sur. Drlg. 3,500 ft.

J. R. Sharp No. 2 Sharp-Crume, Sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

Honolulu Oil Co. No. 1 R. M. Kendrick, Sec. 825, Blk. D, J. H. Gibson Sur. P.B. 5,150 ft.; ran tbg. to tst.

J. E. Mabee No. 1 N. W. Willard, Sec. 741. Drlg. 2,400 ft.

Shell Pet. Corp. No. 1 J. M. Rutts, Sec. 743. Drlg. 4,260 ft.

S. C. Yingling et al No. 1 Nettie Barrier, Sec. 6. S.D.O. 5,501 ft.

WEST CENTRAL TEXAS DISTRICT

Brown County

H. P. Evans No. 1 C. M. Kilgore, Robt. Mitchell Sur. No. 141. S.D. 1,125 ft.; O.&G. shows.

Evans No. 1 J. F. Davis, S. Tull Sur. No. 894. Sp. and S.D.

Callahan County

Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. Fsg. 1,785 ft.

Coleman County

Arcadia Ref. Co. No. 1 W. R. Roberts, D. J. Holt Sur. Fsg. 2,685 ft.

Hoffman & Page No. 1 T. A. Drake, J. H. Woods Sur. No. 46. D.&A. 3,146 ft.

Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. Tstg. 2,865 ft.

Bob Murray No. 1 Dibrell, H. Kigan Sur. near Camp Colorado. Acd. 2,360-65 ft.; no results.

Simpson & White No. 1 Baker, M. A. Fisk Sur. No. 630, Abst. 195. S.D. 2,297 ft.; est. 1,000,000 ft. gas.

Comanche County

Comanche O. & G. Co. No. 1 J. E. McGuire, C. Rockefeller Sur. No. 3. S.D.O. 1,520 ft.

E. T. DeArman No. 1 Underwood, Sec. 37, D.&D.A. Sur., Abst. 624. T.D. 2,764 ft.; P.B. 2,662 ft.; est. 20 B.O.P.D.; S. D. 2,764 ft.; no test.

Loraine No. 1 Carlisle, Sec. 9, Blk. 2, H.&T.C. Sur. M.I.M.

Loraine No. 1 Haile, Sec. 9, Blk. 3, H. &T.C. Sur. C.O. 2,781 ft.; sat. 2,698-2,740 ft.; pmp. 80 B.O. 3 hrs.; T.D. 2,781 ft.

Eastland County

J. F. Baker No. 3 N. T. Mulloy, Wm. Ahrenbeck Sur., Abst. 700. Rng. csg. 3,015 ft.

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. S.D. 1,738 ft.

Hickok P. & D. Co. No. 1 Penn, Sec. 468, S.P. Sur. Drlg. 1,200 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. Fsg. 2,826 ft.

Collard No. 1 W. L. Payton, H. Pierson Sur. No. 1, Abst. 1105. S.D. 185 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. Drlg. 1,185 ft.

Haskell County

Roeser & Pendleton & I.T.I.O. No. 1 M.O. Daugherty, Sec. 19, Wise C.S.L. Sur. S.D.R. 2,816 ft.

Sawyer Drlg. Co. No. 1 A. J. Rowland Est., Sec. 5, Blk. 3, H.&T.C. Sur., 15 mi. E of Stamford. Drlg. 3,646 ft.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, Sec. 191, Lemuel Andrews Sur. S.D.O. in sd. 2,283 ft.

Brown Eagle No. 1 Waterson, Andrews Sur. No. 191. T.D. 2,283 ft.; S.D.

R. B. Farris No. 1 Chas. Donohoo, 220 ft. from S and E lines, N½ Sec. 5, B.B.B. &C. Sur. D.&A. 2,313 ft.

S. C. Herring No. 1 B. L. Ellis, 330 ft. fr. N and E lines, SE¼ Sec. 8-15, T.&P. Sur. Loc.

Humble O. & R. Co. No. 1 Sam Lewis, 1 mi. S of Hawley pool, C. E. Dewitt Sur. No. 254. Drlg. 1,012 ft.

Providence Royalty Co. No. 1 Phillips Est., Subd. 43, Lge. 334, Harrison C. S.L. Sur. Loc.

S. B. Roberts Co. No. 1 Roy E. Prichard, 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell subd. 2, G. Martinez Sur. 195. Loc.

Sinclair Prairie No. 1 Williams, Sec. 40, Blk. 18, T.&P. Sur. D.&A. 3,310 ft.

Stiles et al No. 1 Cook, Sec. 89, B.B.B &C. Sur., western part of county U.R. 3,040 ft.

Ungreen & Frazier No. 1 Griffin, Sec. 188, B.B.B.&C. Sur. Drlg. 2,328 ft.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ Sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft. S.D. 4,505 ft.

Chas. E. Peddicord No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. U.R. 2,505 ft.

Union Oil Co. No. 1 J. D. Pepper, Sec. 51, Blk. 21, T.&P. Sur.; 5,000-ft. test. 6 mi. SW of Sweetwater. Drlg. 1,950 ft.

Palo Pinto County

Engreen No. 1 Ola Carter, Blk. 10, McKinney & Williams Sur. Tstg. 1,753 ft.

Goble-More Drlg. Co. No. 1 M. B. Costello, R. R. Williams Sur., Abst. 896. S.D.O. 2,330 ft.

Parker County

Bartrug & Burns No. 1 Lankin, Sec. 346, T.&P. Sur. S.D. 358 ft.

Brown-Gardner Bros. No. 1 Gilbert, T. &P. Sur., Abst 1958. S.D. 2,175 ft.

Glen Rose No. 1 H. D. Groves, SW¼ Sec. 350, T.&P. Sur. S.D., T.D. 685 ft.

Runnels County

Castor No. 1 Beddo, T. T. Williamson Sur. No. 15½, Prep. run csg. 2,262 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, Sec. 1563, T.E.&L. Sur. 4,500-ft. test. S.D. 3,867 ft.

Fox & Rudd No. 1 Shotwell, Sec. 59, B. A.L. Sur. S.D. 1,600 ft.

R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, Sec. 38, L.A.L. Sur.; 4,500-ft. test. Est. 20 to 50 B.O.P.D.; T.D. 3,660 ft.; drlg. 4,020 ft.

J. G. Hammond No. 1 Coker, 1,620 ft. fr. S line and 1,020 ft. fr. W lines, Sec. 159, B.B.B.&C. Sur. Fsg. 5,120 ft.

Taylor County

Charter O. & G. Co. and A. R. Forester No. 2 Frederickson, Guadalupe C.S.L. Sur., Sec. 120, 3 mi. N of View. Swbg. 70 B.O.P.D.; 2,332-80 ft.; comp.; 188 B.O.P.D.

T. M. Knoles No. 1 Bowles, Sec. 21, P A.L. Sur. P.B. 1,910 ft.; est. 7 B.O.P.D. D.&A. 2,178 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., Sec. 979, T.E.&L. Sur. Tstg. 4,085 ft.

Jones & Stasney No. 1 C. T. Brockman, 330 ft. S line, 330 ft. E line, Sec. 95, Comanche Indian Sur. T.D. 4,706½ ft.; est. 1,000 to 1,500 B.O.P.D.; acd. 4,711 ft.; ga. 145 B.O. 2 hrs.; trying to S.O. wtr.; S.D.; no test; T.D. 4,716 ft.; P.B. 4,710 ft.; tstd.; no results; S.D. 4,715 ft.; prep. P.B.

Marland-Drake No. 1 Dickie Bros., center T.E.&L. Sur. 2226. S.D.O. 4,590 ft.

TEXAS PANHANDLE

Collingsworth County

Tinsley, White & Knoll No. 1 Frank Knoll, Sec. 62, Blk. 16, H.&G.N. Sur. C.&P.

White No. 1 Wischamper. S.D. 2,263 ft. Johnson No. 1 Taylor. S.D. 5,650 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Gray County

English No. 1 Eudy. S.D. 3,977 ft.

Kent County

B. Dolman et al No. 1 C. V. O'Keefe, Sec. 50, Blk. 1, 15½-in. csg. set at 140 ft.; drlg. at 180 ft. last report.

Lipscomb County

M. C. Tieman No. 1 Spangle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 50 ft.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. Drlg. 4,290 ft.

Roberts County

Whitlock No. 1 Cunningham. Drlg. 2,913 ft.

E. C. TEXAS WILDCATS

Angelina County

J. C. Bonham No. 7 Cameron Lbr. Co., E. Miller Sur., 7 mi. E of Zavalla. R.U.

Ginter Bros. No. 4 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 2,214 ft.

Cherokee County

C. C. Lanier No. 1 A. T. O'Neal, J. M. Procella Sur., 3 mi. E of Troup. Loc.

Falls County

W. H. Mahon No. 1 V. H. Moore, N. K. Robinson Sur., between Lott and Rosebud. Loc.

Grayson County

Jim McMurrey No. 1 Dr. T. J. Long, J Garland Sur., 2 mi. S of Collinsville. 4,000-ft. test. S.D.W.O. 3,089 ft.

Henderson County

Tide Water-Seaboard-Humble No. 1 Sadie Starr McGee, R. Acosta Sur., 3½ mi. NE of Murchinson. M.I.M.

Houston County

John G. Mayo No. 1 E. C. Lively, S. Rogers Sur., 4 mi. NE of Grapeland. R.U.

Wynne Drlg. Co. No. 1 May Price, T. Strother Sur., 4 mi. W of Grapeland. M.I.M.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P Walker Sur., 5 mi. S of Terrell. Drlg.

W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. S.D.: 3,104 ft.

J. F. McLaughlin No. 1 Wood-Nash, J C. Cortez Sur., ¾ mi. SE of Scurry Drlg.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. S.D. 30 ft.

Leon County

T. J. Tucker No. 1 Same Vane, James Webb Sur., 4½ mi. SE of Keechi. P.C. 5,534-44 ft.; swbd. wtr.; prep. perf. csg. again.

McLennan County

Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 1,300 ft.

Madison County

W. C. Holleman No. 1 D. C. Cannon, J. P. Phillips Sur., 7 mi. NW of Madisonville. S.D. 1,740 ft.

Reins County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. Loc.

Red River County

Bentley-Sheppard & Stevens No. 1 So. Pine Lbr. Co.; G. S. Parks sur.; 17 mi. N of Clarksville. S.D. 71 ft.

Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 1,109 ft.

Texas Trading Co. No. 2 Southern Pine Lbr. Co., D. D. Briton Sur., 12 mi. N Clarksville. Prep. perf. csg. 2,155 ft.

Rusk County

Drake Drlg. Co. No. 1 R. L. Needham, J. H. Chambers Sur., 3 mi. S of Lanesville. M.I.M.

Smith County

J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. Drlg. 1,250 ft.

Trinity County

C. D. Davis No. 1 J. D. Gibson, A. Donavan Sur., 4 mi. NE of Trinity. Gas blow out 148 ft.; S.D. 158 ft.

Leon Gay No. 1 J. B. Gibson, W. M. Beardsley Sur., 1 mi. S of Trinity. S. D. 2,116 ft.

Van Zandt County

W. S. King No. 1 Edna W. Watson, M. G. Whitaker Sur., 5 mi. S of Grand Saline. S.D. 2,600 ft.

NORTH TEXAS WILDCATS

Archer County

Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. 100-qt. shot 4,352-70 ft.; flowing 25 bbls. per hr.

Panhandle Rfg. Co. No. 2-A H. O. Prideaux, A. Rohus Sur. A-1126. S.S.O. 3,258-66 ft.; tstd. S.W.; will abdn.

Sinclair Prairie No. 1 J. A. Hood, Blk. 18, A.T.N.C.L. Sur. 6⅝-in. cmtd. 4,954 ft.; drlg. plug.; gd. 4,960-75 ft.; test. S.W.; drlg. 5,085 ft.

Thurmond & Lipscomb No. 2 L. F. Wilson, E. Hall Sur. A-682. Drlg. 2,850 ft.

Westmount Oil Co. No. 7 T. J. Dempsey, Sec. 10, D.C.S.L. Sur., O.W.D.D. Drlg. 4,616 ft.

Baylor County

H. F. Wilcox No. 1 J. E. Fritz, D. Bar-Low Sur. A-10. Drlg. 4,190 ft.

Clay County

Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12; 6,000-ft. test. 6⅝-in. 5,990 ft.; S.L. 5,994-6,016 ft.; T.D. 6,354 ft.; P.B. 6,069 ft. and shot csg.; treating; acd. 5,794-5,839 ft. through perfs.

Cooke County

Denver P. & R. Co. No. 1 D. B. Allred, De Los Santos Sur. A-894. Drlg. 700 ft.

L. C. Heydrick No. 1 F. J. Franklin et al, L. Raney Sur. A-878. Loc.

Sinclair Prairie No. 2 J. M. Best, T. Toby Sur. A-1054. Spudding.

Sussex Oil Corp. No. 1 W. R. Cannon, J. Bradshaw Sur. A-31. Loc.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. Drlg. 1,700 ft.

Jack County

Marion Church No. 1 S. E. McClure, Sec. 2669, T.E.&L. Sur. Drlg. 700 ft.

Noah Daves No. 1 K. D. Baker, Sec. 2709, T.E.&L. Sur. 4,000-ft. test. Recem. 10-in. at 90 ft.; W.O.C.

Southern O. & G. Co. No. 1 A. Eason, A. D. Kennard Sur. A-328. Spud. and S.D.

Knox County

Roeser Pendleton and I.T.I.O. No. 1 G. H. Beavers, Sec. 151, H.&T.C. Sur. Drlg. 4,060 ft.

Montague County

H. H. Powell No. 1 Arch Durhan, W. J. Wagoner Sur. A-936. S.D.O. 1,800 ft.

Sinclair Prairie No. 1 Hill, Blk. 71, L. C.S.L. Sur. T.D. 1,558 ft.; C.O.

Youngblood & Foree No. 1 J. A. Burnett, J. Lenow Sur. A-433. Drlg. 3,809 ft.

Wichita County

F. S. Freeland No. 1 J. D. Cooper, H. Hastie A-92; 4,000-ft. test. Loc.

Wise County

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Pits.

Young County

Dean et al No. 1 P. N. King, C. H. Russell Sur. A-1889. Drlg. 3,738 ft.

Horwitz & Oldom No. 1 C. J. Tasch B, Sec. 248, T.E.&L. Sur. 6⅝-in. 4,113 ft.; drlg. 5,050 ft.

R. V. Tidewell No. 1 J. N. Ivey, F. L. Green Sur., Abst. 105. Drlg. 3,550 ft.

ENGINE DESIGN

(Continued from Page 43)

agent to motor fuel represents a very large expense item. The refiner, therefore, has had to study the factors involved in the use of lead tetraethyl, and has recognized the importance of lead susceptibility and lead response in his fuels, and has had to control refining operations with these factors in mind. A recent development along this line is the recognition that sulfur and sulfur compounds such as di-sulfides in gasoline, lower the lead response and established treating methods have undergone many revisions in order to eliminate undesirable sulfur or sulfur compounds.

The successful use of lead tetraethyl has therefore demanded more from the refiner than the simple addition of this compound to his product, as it has been necessary that he prepare his base fuel so as to use this reageant most effectively. . . .

Cracking and reforming processes have been vastly improved and produce motor fuel of much better quality today than they did ten years ago. However, research on these processes must continue as they are by far the major factors for consideration in future motor fuel development. Other processes, however, are also being developed which will assist in raising the octane number of base fuels. Most noteworthy of these at the present time is polymerization. . . .

Other processes such as alkylation of low boiling iso-paraffins and olefins, isomerization of straight chain paraffins to either iso-paraffins or cyclic hydrocarbons, combinations of hydrogenation or dehydrogenation with alkylation or polymerization are being studied and developed. Undoubtedly the near future will see commercial installations for the production of high octane number gasolines by such methods. The importance of higher octane number base fuels has given great incentive to research and development work for the economic production of synthetic hydrocarbons which will impart this property, and which is becoming increasingly necessary with the continuation of present trends.

The importance of adequate volatility of motor fuels is well established. This property not only controls starting ability and operation during the warming up period, but is also related to fuel distribution to the cylinders, and therefore effects economy, acceleration, knocking and other features after the engine has reached operating temperatures. The importance of this has been demonstrated by numerous investigators and partially as a result, the volatility of motor fuels has shown a progressive increase,[4] as is shown in Figure 8.

This increase in volatility has not been demanded entirely by automotive design. Instead, it has more or less been fostered by the petroleum industry. Several fundamental reasons have been responsible for this. Increased cracking and reforming, more efficient rectification and butane recovery have made increased volatility from the utilization of light hydrocarbons an economic necessity. High octane number requirements have been a further reason, since the high octane number of butanes makes their inclusion desirable. Notable research has been carried out by Brown, Eisinger and Barnard, and others showing that increased volatility, if properly utilized, is a desirable feature. Increased volatility permits a more uniform mixture to reach all cylinders of the engine, resulting in better anti-knock performance and better economy. The increase in the average number of cylinders in the engine demands, therefore, a more volatile gasoline. Lower manifold temperatures can be used with more volatile fuels, and it has been shown[2] that a decrease of 15 to 20° in the intake manifold temperature is equivalent to an increase of one octane number in the fuel. Automotive engineers have taken advantage of this and manifold temperatures have been reduced. Late data on this are not available; however, Campbell, Lovell, and Boyd,[3] have shown that from 1931 to 1934, average intake manifold temperatures were reduced 30°, and that the tendency was toward further reduction. Satisfactory performance from automatic chokes, heating devices, etc., makes it necessary that they be adjusted for a certain expected volatility. The volatility trend has been recognized by the automotive industry and the modern car is therefore adjusted for best operation on volatile fuel.

The chief factor limiting fuel volatility has been the tendency of cars toward vapor lock. Early work on this problem indicated that vapor lock was related to both fuel and automobile factors. Vapor pressure is apparently the chief fuel factor, and the amount of heat radiated to the gasoline feed lines, and their vapor handling capacity the principle automobile factors. . . .

From an over-all viewpoint, it is therefore necessary that, in order to make satisfactory motor fuel, the refiner of today must produce a base gasoline not only by the skimming of crude, but also by extensive cracking, polymerization, and other methods in order to produce a base gasoline of high natural octane number. To this, sufficient tetraethyl lead must be added to meet accepted sales quality standards. In addition, the fuel must also meet accepted volatility requirements. The trend in these demands shows little let-up of increasing severity and the successful accomplishment of these objectives demansd that the refiner carry out continuous research work of a very wide scope and continuously modernize his equipment and manufacturing methods in accordance, in order to maintain his position. . . .

Bibliography

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2. Courtesy Ethyl Gasoline Corporation.
3. Brown, George Granger, "Ten Years of Research," The Oil and Gas Journal, 35 (1) 108-116 (1936) May 21.
4. Ziegenhain, W. T., "Trends Influencing the Natural Gas Industry," The Oil and Gas Journal," 36 (2) 12-13 (1937) May 27.

Eastern Kentucky

(Continued from Page 81)

Ashland Oil & Refining Co. drilled in No. 1 D. W. Skaggs on Lowell Creek in Lawrence County, at 833 feet. The well made a good showing but production data was unavailable.

In Lee County, Rush Cable is drilling at 600 feet in No. 9 E. S. Moore No. 1, on Little Sinking, in the Big Sinking district.

In Powell County, Caldwell & Crabtree were drilling at 600 feet in No. 2 Lula Law at Pilot in the South Fork district. Hall & Ogle are drilling at 500 feet in No. 1 S. P. Reed nearby (this was reported as on the George Booth farm, correction made from field). Joe T. Brown, treasurer, is down 600 feet in No. 4 Lowery Heirs, at Mountain Springs.

In Knott County, Inland Gas Co. reported no production in No. 33 Virginia-Kentucky Coal Co. land, at Quicksand, and is plugging the hole. The company is rigging up No. 203, Curtis Pigman land, on right fork of Troublesome Creek and is down 205 feet in No. 205, Kentucky-West Virginia Gas Co. land, on Trace Fork of Troublesome Creek, drilling in slate and shells.

In Floyd County, Kentucky-West Virginia Gas Co. was down 1,314 feet in No. 577, Jennie Caldwell land, on Toms Creek, and was drilling at 110 feet in No. 578 Sherwood Osborn, nearby.

In Martin County, Kentucky-West Virginia Gas Co. has tools out at No. 5191 W. P. Crum, on Coldwater Fork, and is down 2,185 feet in shale in 5,346, Alie Ward in same locality. The same firm is at the 1,354-foot mark in sandy lime in No. 5247 C. W. Preece, on Coldwater Fork, and is drilling at 1,580 feet in sand in No. 5248, John Salyers land, in the same vicinity.

LIMA AND CENTRAL OHIO

FINDLAY, Ohio, Oct. 31.—There were no oil completions in Central Ohio this week, but nine gas wells were brought in. Perry County led the way in gas operations, completing two wells, one good for 3,000,000 feet and the other for better than 1,000,000 feet. In Reading Township, Ohio Fuel Gas Co. No. 1 Mary J. Harlan, Section 8, had 3,000,000 feet of gas in the Clinton sand at 2,959-3,003 feet. In Monroe Township, the same company completed No. 5 G. M. Jones Coal Co., Section 28, for 1,100,000 feet in the Clinton sand at 3,722 feet.

In Coshocton County, Millcreek Township, Ohio Gas, Light & Coke Co. No. 4 Nicholas Lower, Section 10, was completed for a small gas well in the Berea sand at 958 feet.

In Delaware County, Porter Township, McBride Gas Co. No. 1 W. W. Weaver produced at the rate of 500,000 feet per day from Cinnamon shale at 435 feet, then the flow blew down to practically nothing in 16 hours. The test may be drilled deeper.

In Knox County, Jackson Township, Davis Oil Co. No. 3 French Veatch, Section 1, is a small Berea sand gas well at 935 feet. In Union Township, Ohio Fuel Gas Co. No. 1 H. B. Hammond, Section 23, found a small showing of oil in the Clinton sand at 2,880-2,900 feet but the hole was abandoned after a three-day test.

In Lorain County, Carlisle Township, McMillen and others No. 1 Charles Plas, Section 18, was abandoned at 2,351 feet; no Clinton sand was found.

In Meigs County, Salisbury Township, Fugate and others No. 3 John Diehl, Section 34, is good for 100,000 feet of gas in Maxon sand at 947 feet.

In Monroe County, Wayne Township, Smith Gas Co. No. 3 L. E. Smith, Section 26, made 200,000 feet of gas from the Lime sand at 1,390 feet.

In Stark County, Jackson Township, Wiser Oil Co. No. 2 H. M. Schuffell, Section 1, had a small showing of gas in the Clinton sand at 4,379-4,409 feet. It was abandoned after the shot failed to make any increase in the flow.

In Washington County, Liberty Township, Otto Heldman and others No. 1 George Schlarb, Section 20, made 150,000 feet of gas at 1,280 feet.

Lima Field

In northwestern Ohio, the test in the Gilboa field made 45 bbls. of oil the first 24 hours after the 100-quart shot. The pay was found in the Trenton formation at 1,344-64 feet by Brown and others in No. 4 L. U. McCullough in Putnam County, Blanchard Township, Section 22.

In Seneca County, two tests are approaching the Green sand horizon. In Clinton Township, the Sun Oil Co. No. 1 F. Zeis is drilling at 1,965 feet. In Pleasants Township, Jones & Keener No. 25 S. D. Sours, Section 33, is down 2,040 feet.

California Fields

(Continued from Page 65)

required bailing or swabbing operations as they have shown sufficient kick after washing operations to come in flowing. The west end of the Rio Bravo field looks very good in view of recent developments and at present it appears quite probable that all of Section 34-28-25 will be found highly productive.

Southeast Coalinga

The Southeast Coalinga field where Petroleum Securities Co. proved up the existence of prolific production in the Gatchell zone of Eocene age a few months ago contributed another excellent producing well a few days ago when Standard Oil Co. No. 82-13-C in section 13-20-15 was turned loose following completion at 7,112 feet. This new well came in flowing 6,200 bbls. of clean 32.9-gravity oil and 4,300,000 feet of gas per day through a 72/64-inch bean under a tubing pressure of 390 pounds and a casing pressure of 1,300 pounds. No. 82-13-C, which has an elevation of 847 feet above sea level, came in without swabbing and was still building up when the decision came in to start beaning it back. This well has a 9-inch water string landed at 6,755 feet and it is producing from about 300 feet of almost solid oil sand. Superior Oil Co. No. 1 Coalinga fee has reached a depth of 7,110 feet and has cored 264 feet of almost solid oil sand which assures the company of another substantial producer. No. 88-7-F of Petroleum Securities Co. on the other hand has reached 7,000 feet but has not yet logged top of the pay. This company is expanding the scope of its operations in the Southeast Coalinga field with three new rigs being erected. The productive limits of this field have only been defined in the west and northwest with the easterly and southerly limits still wide open.

Wilmington

In the Wilmington field of Los Angeles Basin the Union Pacific Railroad Co. completed one new well in the Ranger zone and another in the Terminal zone,

but neither showed large production. The Ranger zone well, No. A, was finished flowing 331 bbls. of 16.2-gravity oil cutting 2 per cent daily from 3,174 feet after the hole had been completed with 294 feet of 4¾-inch liner including perforations at 2,903-3,026 feet and at 3,068-171 feet. This well was drilled as a key well for injection of gas to repressure the Ranger zone but since the well is capable of producing commercially the company is reluctant to kill it.

Union Pacific Rail Co. No. 92 Offset was completed flowing 442 bbls. of very clean 28.8-gravity oil per day from 3,971 feet, the hole having been finished with 540 feet of 6⅝-inch liner including 440 feet of 60-mesh landed on bottom and cemented through perforations at 3,454 feet. Perforations were at 3,456-543 feet, 3,563-623 feet, 3,633-43 feet, 3,653-743 feet, 3,758-78 feet, 3,788-858 feet and at 3,868-971 feet. General Petroleum Corp. completed No. 20 Harbor Community flowing 677 bbls. of 72.6-gravity oil cutting 6 per cent from the Terminal zone with bottom of the hole at 4,040 feet. The well was finished with 413 feet of 6⅝-inch liner including 290 feet of 60-mesh landed on bottom and 717 feet of 6⅝-inch blank liner landed at 3,627 feet and was brought in flowing through a 40/64-inch bean.

Ventura Avenue

Tide Water Associated Oil Co. completed another excellent producing well in the Ventura Avenue field when No. 11 McGonigle was finished flowing 1,690 bbls. of 23.9-gravity oil cutting 5 per cent and 1,750,000 feet of gas per day from the deep 57 zone with bottom of the hole at 10,935 feet. This, the deepest hole in the Ventura Avenue field, was finished with a 7⅝-inch water string landed at 9,445 feet and 1,539 feet of 5 9/16-inch liner including 1,478 feet of perforated and 7,944 feet of 2½-inch tubing. A 96/64-inch bean was used. This well came in wet on a preliminary production test but the recement job proved effective through perforations at 9,981 feet. The area out on the north flank of the structure where General Petroleum succeeded in completing an excellent producing well several weeks ago is becoming active and will be further increased as soon as work starts on the Bolsa Chica Oil Co. lease which adjoins the property on which General Petroleum finished its large well.

Eastern Fields

(Continued from Page 56)

In Lincoln County, Wilson and Adkins deepened No. 1 Elijah Adkins in Union district starting at 1,736 feet with the Berea sand at 2,273-95 feet; Brown shale 3,280-3,603 feet; Corniferous lime topped at 3,603 feet and a gauge of 94,000 feet a day from the Brown shale and 116,000 feet a day from the Berea.

In Logan County, South Penn Oil Co. completed No. 52 Yawkey-Freeman in Logan district at 2,939 feet, the Berea sand. It gauged 750,000 feet a day with a rock pressure of 230 pounds.

In Monongalia County, Cummins, Phillips and others completed the test on the Robert Cumberledge farm in Battelle district at 870 feet, the Murphy sand where it gauged 350,000 feet a day. It is turned into the line for test.

In Wayne County, Grover Lane completed a gas well on the Martha Adkins farm in Union district at 3,186 feet. Brown shale was at 2,487-3,186 feet and good for 472,000 feet of gas 14 hours after the shot.

In Wetzel County, Daniel Henthorn and others completed a test on the Robert Chance town lot in Proctor, Proctor district, in the Cow Run sand at 570 feet and it is a gas well gauging 250,000 feet a day.

In Calhoun County, Verle M. Stewart and others completed the second test on the C. B. Francis farm in Sherman district in the Injun sand at 2,117 feet and it is showing 92,000 feet a day before shot.

Oriskany Gas Field

Four gas wells were brought in during the week in the Oriskany gas pool in Kanawha County. In Elk district, the Columbian Carbon Co. completed the test on the W. B. Fogarty farm at 5,105 feet with the Oriskany topped at 5,014 feet, and a final gauge of 2,402,000 feet a day.

In Poca district, Mullins Gas Co. completed the Earl K. Johnston test at 5,029 feet with the Corniferous topped at 4,914 feet; the Oriskany 5,017 feet and a final gauge of 9,075,000 feet a day.

In the same district, the Spartan Gas Co. on the Lock and A. E. Fisher farm, topped Oriskany at 4,887 feet after 103 feet of Corniferous, and the well gauged 4,873,000 feet a day which may be increased with additional depth. In this district, the Lima Gas Co. completed a test on the A. T. Mairs Heirs farm at 5,162 feet with the Oriskany topped at 5,123 feet and a final gauge of 12,316,000 feet a day.

Southwest Texas Fields

(Continued from Page 52)

field: Reed & Cox No. 2 Holliday, perforated casing 5,340-58 feet, 70 bbls., eight hours, one-quarter inch choke. Richard King field: Southern Minerals Corp. No. 11 King, perforated casing 4,013-15½ feet, 116 bbls., three-sixteenths inch choke. Saxet field: Barnsdall Oil Co. No. 8 Humphries, perforated casing 6,005-08 feet, 91 bbls., three-sixteenths inch choke. Bartel Oil Co. No. 1 Lawrence, perforated casing 4,739-42 feet, 128 bbls., one-eighth inch choke. Richardson Petroleum Co. No. 24 Cain & Seachrist, 9,625 feet, 175 bbls. distillate, three-sixteenths inch choke. Jay Simmons No. 2 Lawrence, 1,180 feet, blew out, cratered, abandoned.

Refugio County

LaRosa field: Geophysical Service Co. No. 1 Spaulding, perforated casing 5,902-05½ feet, 158 bbls., one-eighth inch choke. Tomoconnor field. Copano Oil Co. No. 18-B O'Connor, sand 5,856-69 feet, 606 bbls., one-quarter inch choke. Copano Oil Co. No. 31-B O'Connor, sand 5,827-41 feet, 584 bbls., one-quarter inch choke. Copano Oil Co. No. 32-B O'Connor, sand 5,866-71½ feet, 627 bbls., one-quarter inch choke. Quintana Petroleum Co. No. 73-A O'Connor, 5,929 feet, 650 bbls., one-quarter inch choke.

San Patricio County

East White Point field: Plymouth Oil Co. No. 1-G Cole, perforated casing 5,638-45 feet, 157 bbls., seven sixty-fourths inch choke.

Victoria County

McFaddin field: Barnsdall Oil Co. No. 9 McFaddin, perforated casing 3,119-36 feet, dry gas well.

Webb County

Bruni field: Tucker-Reagan and others No. 1 Bruni, perforated casing 3,293-98 feet, 12 bbls. one-half inch choke. O'Hern field: Hamill & Smith No. 9-A Benavides, sand 2,877-81 feet, 62 bbls., three-eighths inch choke. Oilton field: W. H. Appell No. 11 Allen, 1,919 feet, 65 bbls., pumping.

Escobas field: Dulup Oil Co. No. 38 Trevino, 1,216 feet, abandoned.

Gulf Coast Fields

(Continued from Page 54)

1 Bennett Oil & Gas Co., sand 6,830-52 feet, 620 bbls., one-quarter inch choke. Windsor Oil Co. No. 3-B Ley, sand 6,827-52 feet, 675 bbls., one-quarter inch choke. Friendswood field: Humble Oil & Refining Co. No. 14 Grey, sand 6,014-40 feet, 672 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Ross, 6,044 feet, 536 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Herman Hospital, sand 5,742-6,046 feet, 600 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 2 C. E. Wood, sand 6,061-68 feet, 604 bbls., one-quarter inch choke. Tomball field: Humble Oil & Refining Co. No. 5 Weindorf, 5,551 feet, 264 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Milo, sand 5,530-50 feet, 242 bbls., one-quarter inch choke.

Liberty County

Hardin field: Atlantic Refining Co. No. 1-B Johnson Finley, perforated casing 7,628-35 feet, 452 bbls., one-quarter inch choke. N. C. Ginther No. 1 Manvel West, perforated casing 7,586-90 feet, 416 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Chambers, 7,565 feet, 504 bbls., one-quarter-inch choke.

Orange County

Orange field: Red Bank Oil Co. No. 3 Michel, perforated casing 5,570-80 feet, 140 bbls., five thirty-seconds inch choke.

Polk County

Segno field: J. K. Dorrance No. 4-A Wing, perforated casing 8,000-18 feet, 8,045-75 feet, 240 bbls., one-quarter inch choke.

Wharton County

Withers field: Smith & McDannald No. 1 Dice & Bain, 5,546 feet, 118 bbls. one-eighth inch choke. Texas Co. No. 52-C Pierce Estate, 5,545 feet, 99 bbls., one-eighth inch choke.

La.-Ark. Fields

(Continued from Page 59)

A second Cotton Valley test, Oliphant Oil Corp. No. 1-B Stewart, C NW NE Section 5-20-10, a southwest outpost, topped the "A" sand stringer at 8,378 feet, and the "B" sand at 8,578 feet and is drilling sand below 8,620 feet. This well will show up as very important within another week, as it may prove to produce oil in the Bodcaw sand, already making oil in two outpost wells on the southeast and northwest. Other important tests on the flanks of the field are approaching the lower Marine sands, and will keep Cotton Valley in the spotlight for several weeks.

Lisbon Extended

Lisbon, with drilling fallen off to its lowest level since discovery, apparently has a new extension which may possibly bring additional development. E. T. Oakes No. 2 Kilgore, C NW SE Section 28-21-5, cored hard to slightly porous lime at 5,294-5,303 feet in the Pettit horizon. A string of 5½-inch casing was set at 5,287 feet and after treating with 5,000 gallons of acid a good flow of oil was reported. Total depth is 5,324 feet. The well is in a northwest outpost position.

Large Gasser

A good show of gas was tested in a deep Union Church well, in the eastern edge of Bienville Parish during the week. The Arkansas Louisiana Gas Co. No. 1-B Davis Lumber Co. made a test at 5,845-76 feet and showed 50,000,000 feet of gas on open flow in 10 minutes, using one-quarter inch chokes top and bottom. The test is being carried deeper and is below 5,980 feet.

In De Soto Parish, the status of the S. S. Alexander No. 2 Stoll in Section 5-12-16, north of Logansport and near the Panola County, Texas, line, is still a question. The gas showing of last week was reported exhausted. The crew will set tubing and packer at 2,761 feet. Last week, after treating with 3,000 gallons of acid the well tested an estimated 2,000,000 feet of gas with a pressure of 400 pounds. Seven-inch casing is set at 2,705 feet.

Shreveport Field

Shreveport's first gas well in the newly opened Pettit horizon was completed as R. E. Allison brought in No. 1 State for an initial gauge of 103 bbls. of distillate and 3,469,000 feet of gas on a five-sixteenths inch choke. The well is bottomed at 5,618 feet, with 7-inch casing set at 5,604 feet. On the initial gauge, tubing pressure stood at 1,900 pounds and casing pressure at 2,100 pounds.

The other important test of the week in the new field was the R. L. Bauman No. 1 Slattery Estate, located more than a mile southeast of the discovery well. This well topped the Pettit lime late in the week at 5,541 feet. On coring the Pettit, the first 5 feet showed gas, the next 14 feet showed a fairly good oil saturation, and the balance of the section cored to 5,575 feet was tight with an odor of oil and gas. Operators are taking one more core before setting the oil string. To the southwest of this outpost, a south-southeast outpost to production, Rodessa Oil & Refining Co. No. 1 Chandler, which blew out at 2,425 feet last week, tested 5,000,000 feet of gas in the Tokio sand on a drill-stem test of the formation at 2,420-34 feet. It is drilling ahead for the Pettit.

Two interesting tests are beginning in Caddo Parish. The Colonial Corp. No. 1 Thigpen-Herold is rigging up in the Pine Island field for a deep Travis peak test in Section 34-22-16. A second test, Arkansas Louisiana Gas Co. No. 1 Webb, Section 4-16-13, in the Lucas block southeast of Shreveport is also rigging up.

Little River County Test

Donald L. Herzer, geologist, reports that the Herzer-Smith No. 1 Waldrop in SE SE NW Section 4-13s-31w, in Little River County, Arkansas, topped sand in the Travis Peak at 3,004 feet, with a showing of oil. The owners will start coring soon, and will run a Schlumberger test at 3,500 feet. Mr. Herzer reports three gas showings and four oil showings on the way down. The well is running 60 feet high on anhydrite compared with the Gote-Allen No. 1 in Section 2-13s-31w. A 70-foot section of anhydrite was found at 2,400-70 feet. The test will be drilled to 4,500 feet to try for Big lime (Permian).

PERSONAL

C. H. STEVENSON is president of the Humble Jesters, a newly organized entertainment club for employes of the Baytown (Tex.) Humble refinery. The first show will be presented November 21. BILL DILLENBACK, dramatic supervisor, has picked the cast for the production. MISS MARIE MOERS is vice president and MISS MODELL CALDWELL is secretary of the club.

CARL HUBBELL, who looks after oil interests in Texas when he isn't pitching for the New York Giants, has moved his residence from Meeker, Okla., to Fort Worth, Tex. "I considered moving there last spring on account of oil investments in that area," he said, "and when they came to me last August with a big tax bill for living in Oklahoma a few months each year, that settled it."

J. ED ERWIN has resigned as executive vice president of the North Texas Oil and Gas Association to join the research staff of the Texas division of the Mid-Continent Oil and Gas Association. Mr. Erwin was succeeded by D. G. GRAY, Wichita Falls, formerly with the Texas Pipe Line Company and the Waggoner Refining Company, and a past vice president of the association.

R. C. JOPLING, vice president of the Phillips Petroleum Company, Bartlesville, Okla., accompanied by R. B. F. HUMMER, of the legal department, Oklahoma City, Okla.; E. F. GUIDINGER, head of the oil sales department, and D. R. KNOWLTON, superintendent of production were in the Rio Grande Valley district to watch the completion of a wildcat test which is expected to open a new field near the McAllen townsite.

RICHARD STEINHORST, formerly a petroleum engineer in the production department of the Texas Company in the Glen pool district of Oklahoma, has been transferred to the company's Kansas division, with headquarters in Wichita.

NEVILLE G. PENROSE, Fort Worth, Tex., producer and operator, was in New York last week. Mr. Penrose, accompanied by Mrs. Penrose and her mother, is completing a 4,000-mile automobile trip through the Middle West, Canada, New England and along the eastern coast.

CHARLES F. ROESER, Fort Worth, Tex., president of the Independent Petroleum Association of America, and GEN. WALTER B. PYRON, of Houston, Tex., vice president of the Gulf Oil Corporation, were presented last week with distinguished service awards by the Texas Mid-Continent Oil and Gas Association. Mr. Roeser was designated the most outstanding independent operator and General Pyron the most outstanding major oil company executive of the industry in Texas.

H. G. WALTER, district geologist for the Texas Company, Amarillo, Tex., will discuss the "Geology of Southeast New Mexico" at the regular meeting of the Panhandle Geological Society Thursday evening, November 3.

SAMUEL THORNE and ARTHUR THORNE, of New York, have been visiting the Fort Worth, Tex., office and the West Texas oil properties of the Pemeta Oil Company in the past week, accompanied by T. C. McMURRAY, general manager for Texas.

C. R. MUSGRAVE, vice president of the Phillips Petroleum Company in charge of traffic and president of the Bartlesville (Okla.) Traffic Club, was elected executive vice president of Associated Traffic Clubs of America at its annual convention in Cleveland, Ohio, last week.

E. E. NEWPORT, of the Sinclair Prairie Oil Company, was elected chairman of the McPherson, Kans., chapter of the American Petroleum Institute at its annual meeting. He succeeds MAX SHERWOOD, of the Shell Petroleum Corporation. All other officers were reelected.

DON B. GOULD, of Colorado College; J. HARLAN JOHNSON, of Colorado School of Mines, and H. S. CAVE, geologist of Roswell, N. M., will act as leaders for the field trip of the Panhandle Geological Society into northern New Mexico November 5 and 6. The trip will start at Trinidad, Colo.

TOM L. DYER, member of the legal staff of Phillips Petroleum Company in the Amarillo offices since 1931, has been promoted to head of the legal department of the company at Austin, Tex., the change becoming effective November 1. Mr. Dyer will move his family to Austin about the first of the year.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Magnolia Petroleum Company will lay a pipe line from Cushing, Okla., to Petrolia, Tex., a distance of 230 miles. The company already has a line from Petrolia to Beaumont, Tex.

Dr. Diesel, inventor of the Diesel engine, who died recently, left his family unprovided for. Creditors even took the furniture from the widow to apply on claims.

The best well thus far drilled in the new Healdton, Okla., pool is a 250-barrel initial producer of the Red River Oil Co. on the McClure farm in Section 5-4s-3w.

20 YEARS AGO

American Pipe Line Co. (Henry L. Doherty interests), completes a 5,000-barrel well in the Mississippi lime in Section 17-27-8, Osage County, Oklahoma. The company has only the gas rights on this lease and it will be offered for sale at the next Osage auction.

John L. McKinney of Titusville, Pa., has resigned as vice president and general manager of the South Penn Oil Company. He had been with the company 30 years as a stockholder and executive. Mr. McKinney will retire from active business.

A Breckenridge, Tex., mail carrier who invested his savings in an oil lease in that district, recently sold it for $196,000 cash.

The nation-wide epidemic of influenza has slowed down work in nearly every oil field. Thousands are ill and many have died of the disease.

10 YEARS AGO

In the past four years 64 salt domes have been discovered in the Gulf Coastal region. Geophysics has proved a big factor in uncovering the hidden domes.

A 3,000-barrel well is completed in the Muskegon, Mich., field, producing from Dundee limestone.

Russell Harry Hubbell, for many years president of Hill, Hubbell & Company, died on November 4 in New York.

W. H. BUTT, of the Texas Company's geological staff in Tulsa, has returned from Cuba, where, with his family, he spent four months.

R. J. DODSON, petroleum engineer with the Shell Petroleum Corporation, has been transferred from Kilgore to the Jefferson field in eastern Texas.

W. F. ROLLINS, division superintendent for the Gulf Refining Company, Houston pipe line division, Fort Worth, Tex., returned to his desk this week after a month's vacation.

HARVEY B. WHITAKER, manager of Bridwell Oil Company's San Antonio, Tex., offices, has been transferred to Mattoon, Ill. MORRIS CANNON has taken over the vacated post at San Antonio.

H. C. FOWLER, assistant chief engineer with the U. S. Bureau of Mines in Washington, was in East Texas last week taking motion pictures of operations in cooperation with the Sinclair Prairie Oil Company.

JEROME (DIZZY) DEAN, of the Chicago Cubs, who is fast becoming an oil man, having considerable production in North Texas, has purchased a home in Dallas and is evidently going to carry out his plans of moving to the city to live permanently.

E. E. FOGELSON, Dallas operator, was named president of the Independent Petroleum Association of Texas at a membership meeting last Thursday in the Tower Petroleum Building offices of D. HAROLD BYRD, retiring president. Mr. Fogelson said the association would continue its policy of opposing price-fixing in the oil industry and against federal control.

PARAGRAPHS

LOFTUS J. BENJAMIN, of London, who visited the United States after an absence of 23 years, sailed for his home last Friday on the Franconia Mr. Benjamin, member of Benjamin & Company, importers of petroleum products, studied refining in the old Phoenix plant in Sand Springs, Okla., in 1914 and 1915. He made a tour of oil areas while in this country.

FORREST M. DARROUGH, formerly assistant secretary of the Carter Oil Company, Tulsa, has been advanced to secretary, to fill the vacancy created by the retirement November 1 of JAMES A. VEASEY, who was vice president, secretary, member of the board of directors, and general counsel. He also will be first assistant to L. V OWEN, who becomes vice president, director and general counsel. JOSEPH L. SEGER, member of Carter's legal staff for several years, succeeds Mr. Darrough as assistant secretary of the company. A farewell dinner was given for Mr. Veasey last Friday night and a watch and chain were presented to him. Mr. Owen was toastmaster.

JACK WILKINSON, of the Magnolia Petroleum Company's Pampa, Tex., office, has been transferred to Mattoon, Ill.

H. H. CHAMPLIN, president of the Champlin Refining Company, is building a residence which promises to be one of the show places of Enid, Okla.

A. T. McDANNALD, Gulf Coast drilling contractor and producer, of Houston, Tex., left last week for a 10-day hunting trip on his ranch in New Mexico.

G. S. WALDEN, chairman of the Standard-Vacuum Oil Company, returned to the United States aboard the Queen Mary after spending several weeks in Holland and other European countries.

D. V. CARTER, chief petroleum engineer for Magnolia Petroleum Company, Dallas, Tex., is taking a belated vacation in the middle western states, timing his trip so as to make several of the headline football games.

L. M. EDELMAN, who has been with Tide Water Associated Oil Co. for 16 years, with offices in San Francisco, as supervisor of spray-oil sales and as manager of marine sales, was elected president of the Pacific Coast Insecticide Association at the annual meeting in Los Angeles.

DON EELLS, after 12 years as superintendent of the Cities Service Oil Company's refinery in Okmulgee, Okla., has been transferred to Ponca City, Okla., where he will make an engineering study of the Cities Service plant. For several years Mr. Eells had the distinction of being the youngest refinery superintendent in the United States.

S. A. YARNELL and PAUL A. ZAHN, of Spencer & Yarnell, Wichita, Kans., oil firm, have returned from a hunting trip in the Meeker district of Rio Blanco County, Colorado, with a 6-prong deer and an elk with 54-inch antler spread. Mr. Yarnell bought a 312-acre tract of land on the Mervine and White rivers, near the White River National Forest.

C. B. COLEMAN, of Taber & Coleman, drilling contractors of Tulsa, is on a hunting trip in mountains of the Mogollon Range in New Mexico, where he has shot two bears. He will be joined there immediately after the A.P.I. meeting on November 19 by his partner, PHILIP TABER, and a brother, GEORGE TABER, of New York, vice president of the Sinclair Refining Company, who will fly there in Philip Taber's plane.

W. R. CURRY, of Oklahoma City, Okla., has opened an office in Salem, Ill., to gain closer oversight of leases recently proved in the Lake Centralia-Salem district. His second well was completed last week and was awaiting a production test. Mr. Curry is said to be planning construction of a pipe line from his Illinois holdings to a loading-rack.

THOMAS D. LYONS, former district judge in Oklahoma, who helped to write the first oil and gas statutes for that state, will deliver a series of lectures on oil and gas law at Notre Dame University, South Bend, Ind., next week. Judge Lyons, whose home is in Tulsa, will discuss first the nature of property, paying special attention to the Oklahoma theory of ownership in place as contrasted with the Texas view.

If He'd Been on Time!

One thing which Dr. Gustav Egloff, nominated for the presidency of the American Chemical Society, detests is the habit of being late. But if he himself had been on time one day back in 1916, when an explosion in the plant of the Aetna Chemical Company, Pittsburgh, Pa., spread wreck and death, the world would have lost a distinguished chemical engineer. The company was working on one of the early types of cracking processes, and the young man, then chief chemist, just missed the disaster.

GUSTAV EGLOFF

Doctor Egloff, director of research for the Universal Oil Products Company, was born in New York in 1886 and attended Cornell and Columbia universities, receiving his Ph.D. from Columbia in 1916. He was a member of the Bureau of Mines staff before he entered Aetna's service, and he left the latter organization to join Universal. He has been a lecturer at Columbia, Princeton, Chicago, Harvard, Northwestern, California, and Stanford universities, and has been a delegate to many world conferences and congresses. He was president of the American delegation to the World Petroleum Congress in Paris in 1937 and he was named vice president of the congress for 1940. He has been a councilor-at-large of the American Chemical Society since 1936 and he has contributed over 300 papers to the literature on hydrocarbons besides writing three books on the subject. About 300 patents have been issued to him. His home is in Chicago.

J. C. GRIERSON, of Union Oil Company of California, has been appointed assistant cashier by J. M. RUST, treasurer.

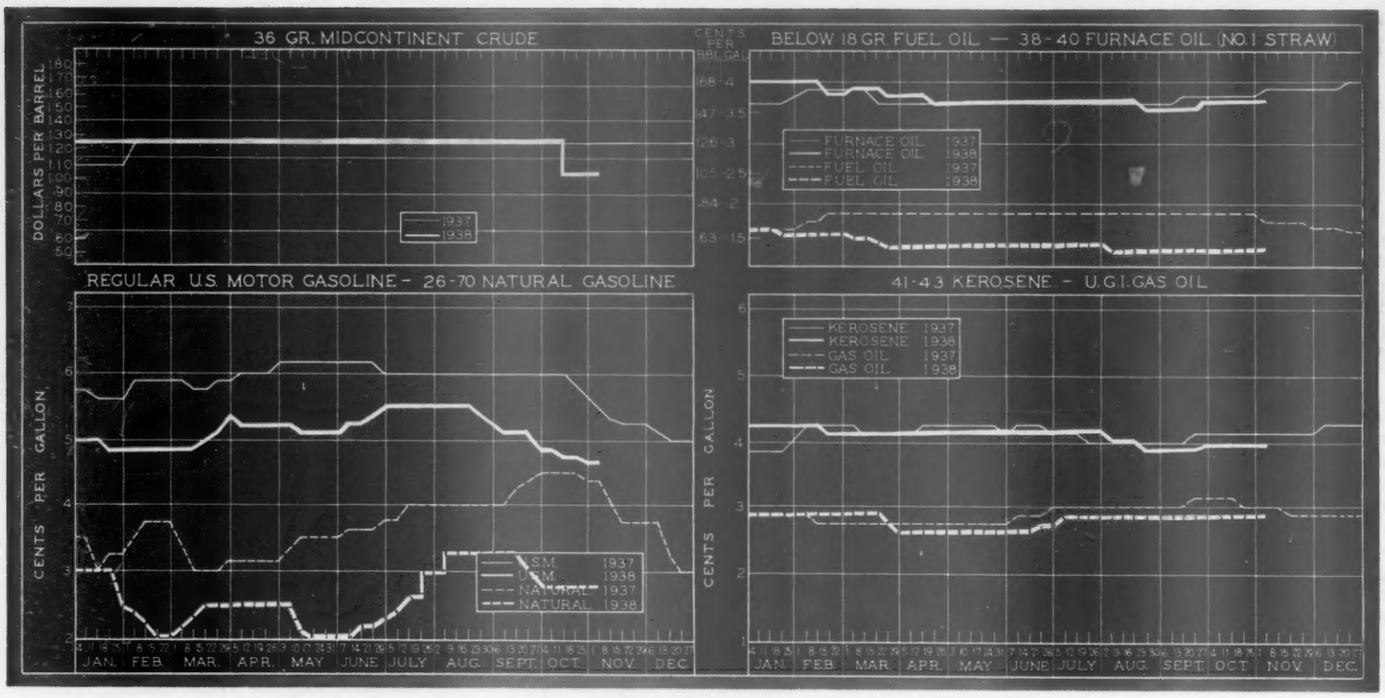
T. E. MOBLEY, a director of Standard-Vacuum Oil Company, is away from his New York office on vacation, which will extend to about November 14.

JOHN E. MULLIGAN, formerly scout for Magnolia Petroleum Company at Wichita Falls, Tex., has been transferred to the company's Mattoon, Ill., office. He is succeeded by J. M. PHILLIPS, formerly of the Dallas office.

RUFUS PILCHER, of Richfield Oil Corporation's engineering department, was among those who rescued LYLE TALBOT, the motion picture actor, and FRANKLIN D. PARKER from the former's home which recently caught fire in the night.

HENRY L. FREY, head of the auditing staff of the Standard Oil Company of New Jersey, was the recipient recently of a diamond-studded 40-year service button from the company and a gold watch from friends in the organization. Mr. Frey made his first company connection on June 1, 1898, with the firm of Scofield, Shurmer & Teagle.

JOSEPH G. SMITH, president of the Oil Trades Association of New York, along with committees, had a floor show that included 10 vaudeville acts at the twenty-third annual banquet of the organization in the Hotel Waldorf-Astoria Tuesday night of this week. Mr. Smith, who is head of the Smith-Weiham Company, Inc., stirred enthusiasm by an announcement that there would be no speakers. The Spenton Bush Company reserved 13 tables, and many middle western oil men were present.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Naturals Stronger in Group 3; Motor Fuel Believed to Have Hit Bottom

By T. F. SMILEY

Natural gasoline moved into a distinctly better position in the Group 3 territory in the past week, and the motor fuels, though still suffering from price sickness which has afflicted them all year, exhibited signs of convalescence. There was little change in the other refined products.

Evidence increases that refinery stocks of natural gasoline, which for an extended period made it unnecessary for their owners to do any buying, are at last near depletion. An order for several hundred cars from one major refiner is expected to clean up manufacturers' inventories pretty thoroughly. In fact, some may have to turn down new business for a while. Another major company has substantially increased its orders for November delivery.

Inventories Look Encouraging

Indications are that so far as stocks are concerned the natural gasoline business will be in excellent shape at the end of the year. One company which is known to have had big plant storage in September was reported to have been virtually sold up in the past week. Others are approaching that condition.

Helping further to invigorate the natural gasoline market was the closing of an order for an export cargo. Inquiries for a half cargo are expected to take the form of finished business within a few days. Reports pointed to something like scarcity of the 26-70 grade in Oklahoma. This was not because of buyers clamoring for it, but because so much of it had been stabilized that only limited quantities were left for ordinary spot requirements. Jobber demand has been largely for the lower vapor pressures, since the facilities of most jobbers are not well adapted for handling the 26-70, and evaporation losses are expensive.

A few weak spots still were visible in the natural market. One of these was some stabilized material of low octane value in Louisiana which has been seeking an outlet. No price changes were reported in either Oklahoma or Texas. Failure of quotations to respond to the increased tightness of the market was attributed chiefly to the low level of prices prevailing for the refined product.

Opinion was general that motor fuel prices at last had touched bottom. Sales managers almost without exception told of larger shipments and more of them. Delightful motoring weather has prevailed quite generally, and when consumption figures for October are available they are expected to mark a new peak in records for that month. Any sudden cold snap will have an immediate effect on use of the family car, but until the end of the football season, with its strings of automobiles streaming to stadiums throughout the country, there is sure to be a pretty fair business for the filling stations.

Refined Oil Market Barometer

Unusually heavy fall consumption of gasoline is keeping shipments at a high level without correcting a disordered price structure. Pleasant weather continues to retard demand for heating oils, but inventories are in fair shape. Position of natural gasoline shows marked improvement. Rising activity in industry is having favorable effect on heavy fuels. Kerosene maintains firmness.

MID-CONTINENT. Gasoline demand heavy, but prices low. Naturals stronger. Heating oils steady.

EAST COAST. Gasoline demand higher than normal. Light fuels affected by mild weather.

GULF COAST. Gasoline shows signs of improvement. Fuel oil firm. Kerosene soft.

CALIFORNIA. Diesel and fuel soft. Gasoline easy. General market weak.

PENNSYLVANIA. Kerosene and light fuels firm. Gasoline steady. Neutrals easier.

CHICAGO. Gasoline more settled. Heavy fuels improving. Heating oils dull.

Cheap Crude in East Texas

East Texas continues to present perplexities. Of the 11 refineries on stream there in the past week 6 were operating on cheap confiscated crude, whose products can be sold inside the state only. Plants using legally produced crude, bought at posted prices, cannot compete in intrastate business with those paying about 30 cents a barrel for raw material. One of the larger refineries, it was reported, would shut down this week as soon as it had used up its stock of crude.

The bit of cool weather which visited parts of the Middle West last week imparted only a slight bulge to the demand for heating oil. Buying has been steady, however.

Neutrals and bright stocks continued to drag, and there was no difficulty in finding material that could be bought at concessions from published quotations. Companies with reputations to sustain were refusing to lower their quotations or deviate from their rigid standards of quality. "Let the fellows who want that cheap business take it," remarked one sales manager.

Demand for Gasoline on Eastern Coast Surpasses Expectations

By H. STANLEY NORMAN

NEW YORK, Oct. 31.—Other than the continued heavy movement of motor fuel into consuming channels, petroleum markets on the northeastern Atlantic Coast were without feature last week. Gasoline demand, which continues higher than normally expected for this season, accompanied by a stronger tanker charter market, combined to lift the market prospects. A small amount of spot motor fuel continues to move in barge deliveries in the New York Harbor market at 5⅞ cents, according to reports, although dealers admitting sales at this figure are difficult to find. The general market appears to be in the range of 6 to 6¼ cents, while the tankcar sales reported were mostly at 6¼ to 6½ cents per gallon.

With consumption surpassing expectations of most sellers, retail conditions are reported practically unchanged from the midde of October when quotations were revised downward a quarter to a half cent per gallon at certain up-state New York and New England points. There are a few points in New Jersey classified as subnormal, notably around Camden.

Motor fuel was reported reasonably free on the Gulf Coast, but reports of sales below the current prices have not been received. There is considerable talk in trade circles that present quotations could be shaded on a firm offer, but others are inclined to discount this impression in the absence of proof. The thought of higher coastwise gasoline prices spread to new fields after the five-day producing week in Texas was extended over November last week. A spread of the gap between 1937 and 1938 motor fuel inventories, in favor of the latter year, may be reasonably expected to widen through November, with producing schedules due for no material change.

Tardy development of the late fall and early winter seasons in the northern Atlantic coastal section has curtailed trading in light fuel oils. Comparatively mild temperatures have existed in this section to date. Home owners have had no occasion so far to replace supplies of burning oil delivered in September, although a limited use of heating has been required for four to six weeks. Tank-wagon deliveries of No. 3 fuel oil are being made currently in New York and vicinity at 6½ cents per gallon, a full cent below the market existing at this time a year ago. The tankcar market for light fuel oil remains unchanged at 4¼ cents per gallon with deliveries by barge obtainable at an eighth of a cent off that figure.

Buyers of most products are still cautious and are ordering supplies on a hand-to-mouth basis either for the purpose of strengthening their inventory position for close of the year or in anticipation of a more serious reaction from the crude price adjustment. Tanker charter rates have advanced about 2 to 5 cents per barrel over those prevailing in September. Boat owners are currently asking 20 to 21 cents per barrel for moving gasoline from the Gulf Coast to north of Cape Hatteras. About 17 to 18 cents appears to be the tanker charter market for transportation of heavier materials. An investigation of the tanker situation indicated that the number of boats available for open market charter has been materially reduced during the past six weeks and that it is growing increasingly difficult to obtain a fixture immediately.

Kerosene is one of the strong elements in the petroleum markets both on the Gulf Coast and at northern Atlantic ports. There has been no upward movement of the market, but there are fewer reports of concession prices on this product than on any others in the list. A part cargo of kerosene consisting of 25,000 bbls. of 41-43 water white material was sold on the Gulf Coast last week at 4 cents, which some said was an eighth over the minimum. Sellers in this section report, however, that kerosene is in good demand and that prices are firm. Tankcar sellers of kerosene are asking from 4¾ to 5 cents per gallon in New York Harbor territory with barge deliveries available at an eighth of a cent below those figures.

The demand for industrial fuel oil continues to improve as manufacturers swing into fall production schedules which have been materially elevated in practically all lines. Low-gravity residual fuels on the Gulf Coast are held at a minimum of 60 cents per barrel. Bunker C fuel oil in Atlantic Coast terminals is held at 95 cents per barrel, unchanged for several months. Demand from the marine trade is reported increasing in keeping with the general advance in business activity.

Western Pennsylvania market conditions were reported unchanged from the preceding week. Kerosene and light fuel oils are probably the strongest items on the list, but movement of gasoline, lubricating oil, wax and other products is reported at a satisfactory rate. Orders for neutral oil have tapered off somewhat, but prices prevailing over the past two or three weeks are still quoted by most suppliers in position to serve the open market.

Negotiation of another import control contract by a Detroit concern, Argo Oil Co., and the Mexican Government caused a flutter in the crude market circles. On mature analysis, however, this import quota of Mexican crude is not considered a serious threat to the domestic market at its present levels. If distributed in domestic consuming channels, the Mexican crude can hardly escape reaching the market levels of domestic production. Transportation charges from Tampico, import duty of 21 cents per barrel, and the refining expense, followed by more transportation charges for movement to consuming points, are factors which influence the cost of finished materials. Interpreted in terms of cost per barrel for products made from Mexican crude entering domestic consumption, the figure can hardly be less than 75 cents, even considering that Mexico makes a gift of the crude.

The chief threat of imported Mexican crude is against normal export demand from American refiners. In the case of Eastern States Petroleum Co. on the Gulf Coast, which has been receiving quantities of Mexican oil over the past few weeks, products derived therefrom are exported. Of course, there is the bartering feature practiced almost exclusively with Mexican petroleum products which gives it an even wider margin of advantage over domestic materials.

Some traders reported that 70-octane gasoline, unleaded, is available on the Gulf Coast at about 5 cents per gallon. Rumors were widespread that this price might be shaded on a firm offer, but no spot market cargoes for coastwise movement were reported sold last week. A large portion of the business in coastwise trade is on a contract basis and the lack of spot market sales is no indication of the demand for materials by eastern distributors.

Decision of a lower court that the New Jersey state fair trade act is invalid so far as it prohibits sale of commodities below cost has not and probably will not disrupt the branded gasoline price ma-

(Continued on Page 96)

A. P. I. Weekly Refinery Statistics

Week Ending October 29, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	476,000	17,082,000	16,751,000
Appalachian	85.9	96,000	2,802,000	916,000
Indiana, Illinois, and Kentucky	89.5	469,000	10,191,000	9,394,000
Oklahoma, Kansas and Missouri	81.6	237,000	6,164,000	4,718,000
Inland Texas	50.3	98,000	1,523,000	2,050,000
Texas Gulf	88.9	763,000	9,930,000	14,797,000
Louisiana Gulf	97.3	127,000	2,202,000	3,123,000
North Louisiana and Arkansas	55.0	45,000	408,000	834,000
Rocky Mountains	54.2	37,000	1,053,000	781,000
California	90.0	465,000	12,695,000	96,975,000
Total reported	85.6	2,813,000	64,050,000	150,339,000
Estimated unreported	.....	332,000	3,540,000	3,380,000
*Estimated total	.....	3,145,000	67,590,000	153,719,000
*Estimated total previous week	.....	3,230,000	67,695,000	152,796,000
*October 30, 1937	.....	3,345,000	66,836,000	121,070,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending October 22, 1938	276,652,000 barrels
Week ending October 15, 1938	277,001,000 barrels
Week ending October 23, 1937	306,556,000 barrels

Figures do not include stocks of heavy, refinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of November 1, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank-wag.
Chicago, Ill.	15.1	12.6	4.0	10.0
Decatur	15.1	12.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	12.9	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.3
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.05	4.0	9.7
Saginaw	15.8	14.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†9.5
South Bend	17.1	15.6	5.0	†9.0
Fargo, N. Dak.	16.7	15.2	4.0	11.6
Minot	18.0	16.5	4.0	12.9
Huron, S. Dak.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	7.5
St. Louis*	14.7	13.2	4.0	9.6
St. Joseph	14.4	12.9	4.0	9.3
Wichita, Kans.	13.9	10.6	4.0	7.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wag. on prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective November 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents; 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons 4.75 cents; 400 gallons and over 3.75 cents. Stanolex grade B, 1-799 gallons, 4.75 cents; 800 gallons and over, 3.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank wag.
Atl'tic City, N. J.	12.9	10.9	4.0	8.0
Newark	12.9	10.9	4.0	8.0
Annapolis, Md.	14.35	12.85	5.0	9.5
Baltimore	13.75	12.25	5.0	8.5
Cumberland	16.15	13.65	5.0	10.0
Wash'g'n, D. C.	12.0	10.50	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	11.0
Charles'n, W. V.	16.55	14.05	6.0	12.6
Parkersburg	14.85	13.35	6.0	11.2
Wheeling	15.75	14.35	6.0	12.2
Charlotte, N. C.	18.15	15.65	7.0	12.1
Hickory	18.65	16.15	7.0	12.5
Mt. Airy	18.45	15.95	7.0	12.3
Raleigh	17.75	15.25	7.0	11.6
Salisbury	18.25	15.75	7.0	12.2
Charleston, S. C.	16.75	14.25	7.0	10.6
Columbia	17.75	15.25	7.0	11.6
Spartanburg	18.45	15.95	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

While the above prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.4 cents per gallon for Essolene. Dealers having pumps marked only "Esso, Essolene and 'Standard White'" gasoline will pay 7.9 cents for Essolene. Price basis to all other undivided dealers above is Essolene dealer tank-wagon price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	20.5	17.5	7.0	10.0
Augusta	20.0	17.0	7.0	10.0
Macon	20.0	17.0	7.0	11.0
Savannah	19.0	16.0	7.0	9.0
Birm'ham, Ala.	21.0	18.0	8.0	9.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	21.0	18.0	9.0	10.5
Jackson, Miss.	19.5	16.5	7.0	9.5
Vicksburg	19.5	16.5	7.0	9.0
Jacks-ville, Fla.	20.0	17.0	8.0	8.0
Miami	20.0	†7.0	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	20.0	17.0	8.0	8.0
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	9.5
Louisville	17.5	14.5	6.0	9.0
Paducah	18.0	15.0	6.0	9.0

*Includes 1-cent state tax.

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallons discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Billings, Mont.	19.0	6.0	13.0
Butte	19.5	6.0	15.5
Helena	20.0	6.0	15.5
Great Falls	19.0	6.0	15.5
Salt Lake City, Utah	17.0	5.0	16.0
Twin Falls, Idaho	21.0	6.0	18.0
Boise	19.0	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Divided dlr.	Inc. tax	tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	T'wag. dealer	T'car consr.	Inc. tax	tank wag.
Albany	14.3	12.3	5.0	8.0
*Met. N. Y.:				
M'htt'n., Bronx	13.4	12.25	5.0	8.0
Staten Island	13.4	12.25	5.0	8.0
Q'ns. & Bklyn.	13.4	12.25	5.0	8.0
Buffalo	12.9	12.6	5.0	7.5
Rochester	14.0	13.2	5.0	8.5
Syracuse	14.0	12.9	5.0	9.0
Boston, Mass.	12.5	11.0	4.0	7.5
Portland, Me.	14.0	12.25	5.0	8.75
Manch'ter, N. H.	14.5	12.8	5.0	8.5
Burlington, Vt.	14.7	12.65	5.0	9.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
Phil'delphia, Pa.	13.0	12.0	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'ld, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn.	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline		Kero
	Dealer	Inc. tax	tank wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	13.5	5.0	7.0
Tulsa	12.0	5.0	6.0
Ft. Smith, Ark.	14.25	5.0	7.5
Little Rock	16.75	7.5	8.0
Texarkana	14.0	5.0	8.0

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero-
	Tank-wag. dlr.	Tank-car con't.	Inc. tax	tank-wag.
N. Orleans, La.	19.25	16.75	*10.0	†11.0
Baton Rouge	17.25	14.75	8.0	‡10.5
Alexandria	17.25	14.75	8.0	‡12.5
Lafayette	17.50	15.00	8.0	‡12.5
Lake Charles	17.25	14.75	8.0	‡12.5
Shreveport	16.00	13.50	8.0	‡11.0
Knoxville, Tenn.	20.50	18.00	8.0	14.5
Memphis	18.50	16.00	8.0	12.5
Chattanooga	20.00	17.50	8.0	14.0
Nashville	19.50	17.00	8.0	12.0
Bristol	19.00	18.25	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank-wag.	Dlr.	Inc. tax	tank-wag
Omaha	17.5	16.0	6.0	10.3
McCook	17.5	16.0	6.0	10.0
Norfolk	17.9	14.9	6.0	10.7
North Platte	18.3	15.4	6.0	11.0
Scottsbluff	19.0	13.9	6.0	11.8

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
Dallas, Tex.	14.0	17.0	5.0	8.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Monteral, Que.	20.0	6.0	14.5
Toronto, Ont.	21.0	6.0	15.5
Hamilton, Ont.	21.0	6.0	15.5
Winnipeg, Man.	27.5	7.0	20.?
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Imperial Oil, Ltd., October 15 reduced tank-wagon gasoline 1 cent in Halifax, St. John, Montreal, Toronto, and Hamilton. October 25, reduced tank-wagon kerosene 1 cent in Halifax and St. John, 3 cents in Montreal, 1.5 cents in Toronto and Hamilton.

Standard Oil Co. of New Jersey October 24 reduced tank-wagon kerosene 1.9 cents in Roanoke; October 27, reduced tank-wagon kerosene .5 cent in Baltimore.

Standard Oil Co. of Indiana October 22 reduced dealer tank-wagon gasoline 1 cent in Decatur.

Socony-Vacuum Oil Co., Inc., October 27 reduced tank-wagon dealer gasoline .7 cent in Buffalo.

Standard Oil Co. (Kentucky) October 25 reduced tank-wagon and net dealer gasoline .5 cent in Louisville and tank-wagon kerosene 1 cent in Paducah and Atlanta.

New York Market

(Continued from Page 95)

chinery. Motor fuel is covered in two directions by New Jersey statutes. In one law, pertaining only to motor fuel, sales below the posted price are prohibited. In the fair trade act, producers or distributors of branded products are empowered to stipulate minimum retail, resale prices.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of November 1, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.03¾	.03⅞
63-66 octane	.04	.04¼
67-69 octane	.04⅜	.04⅝
70-72 octane (regular)	.04⅝	.04⅞
60-62 400 grades:		
62 oct. and below	.03¾	.04
63-66 octane	.04	.04¼
67-69 octane	.04⅜	.04⅝
70-72 octane (regular)	.04⅝	.04⅞
64-66 375	.04	.04¼
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03¾	.03⅞
63-66 octane	.04	.04¼
67-69 octane	.04⅜	.04⅝
70-72 octane (regular)	.04⅝	.04⅞
60-62 400	.04	.04¼
64-66 375	.05	.05¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04⅜	.04½
63-66 octane	.04½	.04⅝
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05¼	.05½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
67-69 octane	.05	.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.03¾	.04
63-66 octane	.04	.04¼
67-69 octane	.04⅜	.04⅝
70-72 octane	.04⅝	.04⅞
60-62 400 grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04	.04¼
67-69 octane	.04⅜	.04⅝
70-72 octane	.04⅝	.04⅞
64-66 375	.04	.04¼
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05	.05¼
65 octane	.06⅜	.06⅝
68-70 octane	.06⅞	.07⅛

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06¾	.07
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane		.04⅝
60-64.9	.04⅝	.04⅞
65 octane and higher	.04⅞	.05⅛
68-70	.05⅛	.05½

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¾	.04⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.02¾	.03
Grade 18-55		.03¼

NORTH TEXAS—

Grade 26-70	.02¾	.03
Grade 18-55		.03¼

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.04⅛	.04⅛
46-48 gr., 210-230 l.b.p., 480 max., e.p.	.04½	.04⅝

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04	.04⅛
42-44	.04¼	.04⅜

NORTH TEXAS—

41-43	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04⅜

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (inland refineries)—

45	.04¾	.05
46	.04⅞	.05⅛
47	.05	.05¼

CHICAGO (Based on Group 3)—

41-43	.04	.04⅛
42-44	.04¼	.04⅜

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43		.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅞	.04
No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅝	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¾	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 5, low pourpoint, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04	.04⅜

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.35
24 plus Diesel, per bbl.	1.00	1.30
24 plus Diesel (bunkers)	1.25	1.50
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.50	.85
10-17 (high sulfur)	.45	.70
San Joaquin Valley:		
10-18 (tankcars)	.55	.85
24 plus Diesel, per bbl.	1.20	1.45
San Francisco:		
24 plus Diesel, per bbl.	1.40	1.45
24 plus Diesel (bunkers)	1.45	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03½
43-47 Diesel		.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.60	.65
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04⅛
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.17	.17½
15 pourpoint	.16	.16½
20 pourpoint	.15	.15½
25 pourpoint	.14	.14½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil 15-20 pourpoint:		.06
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07⅝
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07½	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pourpoint	.17	.17½
10 pourpoint	.16	.16½
15 pourpoint	.15	.15½
25 pourpoint	.14	.14½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.19	.19½
10 pourpoint	.18	.18½
15 pourpoint	.17	.17½
25 pourpoint	.16	.16½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02¼
Amber	.02⅜	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¾
Snow white	.06½	.06¾
Cream	.04½	.04¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04⅝	.04¾
60-62 400	.04⅝	.04¾
61-63 390	.04⅝	.05
64-66 375	.04⅝	.05

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white		.04
41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stock:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p		.0455
Crude scale:		
124-126 w.s.	.0185	.0200
124-126 y.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Van, Tex. (Oct. 11, 1938)* ..... .93
Talco, Tex. (Oct. 11, 1938)* ..... .55
Rodessa, Tex. ....
See North Louisiana gravity schedule

Cass and Panola counties, Texas..
See gravity schedule
Altus and Tipton† ..... See note below
Cayuga, Tex. (Oct. 12) ..... .81
Clay Creek, Tex. ..... .85

*Humble Oil & Refining Co. †Gulf Refining Co.

Altus and Tipton, Okla., starting at below 25 degrees at 71 cents, 2-cent spread to 40 degrees and above at $1.03. East Texas price met by all buyers posting prices. Talco price adopted by Talco Pipe Line on October 11. Cayuga posted by Tide Water Associated Oil Co. Clay Creek posted by Sun Oil Co.

Gulf Coast

Conroe, Tex. (Oct. 11, 1938)* $1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† ..... See note below
Gibson, La. (Oct. 11, 1938)† 1.04
Garden Island, La. (Oct. 12, 1938)‡ 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)‖ .. 1.14
Hardin, Tex. (Oct. 12, 1938)¶ 1.02
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ .. 1.03
Abbeville, La. (Oct. 11, 1938)‖ .....
See note below
Bosco, La. (Oct. 13, 1938)‖ 1.02
Creole, La. (Oct. 12, 1938)‖ ..... .96
Gueydan, Sweet Lake and Louise, La. (Oct. 13, 1938)‖ .... See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 13, 1938)** ....
Long Lake, Tex. (Oct. 13, 1938)** .. 1.08
Segno and Wing (Oct. 13, 1938)** ..
See note below
Livingston (Oct. 11, 1938)† 1.10
Gibson, La. (Oct. 11, 1938)† 1.04

*Humble Oil & Refining Co. †Shell Petroleum Corp. ‡The Texas Co. §Continental Oil Co. ¶Magnolia Petroleum Co. ‖Pure Oil Co. **Gulf Refining Co.

Black Bayou, etc., starts at below 20 degrees at 79 cents; 20-20.9, 81 cents; 21-21.9, 83 cents, then a 3-cent spread to 26-26.9 degrees, 98 cents, and 27 degrees and over $1. Abbeville starts at below 36 degrees, $1.01, 2-cent spread to 40 degrees and over at $1.11. Gueydan, etc., starts at below 20 degrees, 79 cents, 3-cent spread to 26-26.9 degrees at $1, and 2-cent spread to 40 degrees and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18 gravity, 76 cents, 2-cent spread to 20-20.9 at 82 cents; then a 3-cent spread to 26-26.9 at $1; then a 2-cent spread to 34 degrees and over at $1.16.

Southwest Texas

Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* ..... $ .96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Oct. 11, 1938)* 1.27
Darst Creek (Oct. 12, 1938)† ..... .96
Darst Creek and Bruner (Oct. 13, 1938)† ..... .96
Luling (Oct. 12, 1938)† ..... .87
Lytton Springs (Oct. 12, 1938)† ... .99
Mirando (Oct. 12, 1938)† ....
Government Wells (Oct. 13, 1938).
See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20 gravity, 77 cents, 3-cent spread to 24-24.9 at 89 cents.

North Louisiana and Arkansas

Smackover, Ark. (Oct. 5, 1938)* ... $ .73
Buckner, Magnolia and Village, Ark. (Oct. 5, 1938)* ....See note below
Schuler, Jones sand..... See note below
Tullos and Urania ..... .59
El Dorado east field ....
Lisbon, La. (Sept. 19, 1938) .....
See note below

*Smackover posted by Standard Oil Co. of Louisiana, October 5, 1938; by Magnolia Petroleum Co., October 12; by Gulf Refining Co., October 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25 degrees, 66 cents, with 2-cent spread to 40 and over at 98 cents; by Lion Oil Refining Co. on October 5, 1938; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolle; by Lion Oil Refining Co., October 5: Buckner, Magnolia and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. on October 5; quote same prices as for Schuler Jones sand crude.

Middle Western States

OHIO OIL CO.
(Effective October 13, 1938)

Lima, Ohio ..... $ .90
Illinois old fields 1.05
Illinois basin 1.15
Princeton, Ind. 1.05
Western Kentucky 1.10
Greendale, Porter and Crystal, Mich. (Oct. 13, 1938)* ..... .92½
Buckeye, Bentley, Edenville, Beaverton, Mich. (Oct. 13, 1938)* .... .90
Freeman, Mich. (Oct. 13, 1938)* .. .87
West Branch and Arenac, Mich. (Oct. 13, 1938)* ..... .74
Muskegon 1.00
Eastern Kentucky:
Big Sandy River (Oct. 1, 1938)† . 1.22
Kentucky River (Oct. 1, 1938)† . 1.30

*Simrall Corp. †Ashland Refining Co.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)* .. $ .92
Elk Basin, Wyo. (Oct. 11, 1938)*† . .90
Grass Creek, light, Wyo. (Oct. 11, 1938)*† ..... .90
Grass Creek, heavy (Oct. 11, 1938)† .40
Lance Creek, Wyo. (Oct. 11, 1938)* .77
Rock Creek, Wyo. (Oct. 11, 1938)* . 1.00
Iles, light, Colo. (Oct. 11, 1938)† ... .98
(Continued on Page 103)

Crude Prices by Gravities

	Oklahoma	Oklahoma and Kansas	North and Central Texas	Louisiana and Arkansas	East Central Texas	Gray County, Texas	Hutchinson and Carson counties, Texas	Raccoon Bend, Satsuma and Tomball, Texas	West Texas and Lea County, N. M.	Fort Collins and Wellington, Colo.	Anahuac and Dickinson, Texas	Refugio, Texas	Mirando and Duval Texas	Gulf Coast Texas	Cass and Panola counties, Texas	Beaumont and West Beaumont, Texas	Lockport, Iowa, Cameron Meadows, Louisiana	Artesia, Jackson and Mallamar, N. M.	Iowa, Louisiana
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Below 18	....	....	....	....	....	....	....	....	$.53	....	$.74	$.79	$.74	$.79	....	....	$.74	....	$.75
18-18.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.74	.79	....	$.79	.76	....	.77
19-19.9	....	....	....	....	....	....	....	....	.55	....	.77	.82	.77	.82	....	.82	.80	....	.81
20-20.9	$.60	$.70	....	....	....	....	....	....	.57	....	.80	.85	.80	.85	....	.85	.82	....	.83
21-21.9	.63	.72	....	....	....	....	....	$.95	.59	....	.83	.88	.83	.88	....	.88	.85	....	.86
22-22.9	.66	.74	....	....	....	....	....	.97	.61	....	.86	.91	.86	.91	....	.91	.88	....	.89
23-23.9	.69	.76	....	....	$.78	....	....	.99	.63	....	.89	.94	.89	.94	....	.94	.91	....	.92
24-24.9	.72	.78	$.71	....	.80	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Below 25	....	....	....	$.73	....	....	....	....	....	....	....	....	....	....	$.73	....	....	....	....
25-25.9	.75	.80	.73	.75	.82	....	....	1.01	.65	....	.92	.97	.92	.97	.75	.97	.94	....	.95
26-26.9	.78	.82	.75	.77	.84	....	....	1.03	.67	....	.95	1.00	.95	1.00	.77	1.00	.97	....	.98
27-27.9	.81	.84	.77	.79	.86	....	....	1.05	.69	....	.97	1.02	.97	1.02	.79	1.02	.99	....	1.00
28-28.9	.84	.86	.79	.81	.88	$.72	$.67	1.07	.71	$.81	.99	1.04	.99	1.04	.81	1.04	1.01	$.61	1.02
29-29.9	.87	.88	.81	.83	.90	.74	.69	1.09	.73	.83	1.01	1.06	1.01	1.06	.83	1.06	1.03	.63	1.04
Below 30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
30-30.9	.90	.90	.83	.85	.92	.76	.71	1.11	.75	.85	1.03	1.08	1.03	1.08	.85	1.08	1.05	.65	1.06
31-31.9	.92	.92	.85	.87	.94	.78	.73	1.13	.77	.87	1.05	1.10	1.05	1.10	.87	1.10	1.07	.67	1.08
32-32.9	.94	.94	.87	.89	.96	.80	.75	1.15	.79	.89	1.07	1.12	1.07	1.12	.89	1.12	1.09	.69	1.10
33-33.9	.96	.96	.89	.91	.98	.82	.77	1.17	.81	.91	1.09	1.14	1.09	1.14	.91	1.14	1.11	.71	1.12
34-34.9	.98	.98	.91	.93	1.00	.84	.79	1.19	.83	.93	1.11	1.16	1.11	1.16	.93	1.16	1.13	.73	1.14
Below 35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.00	1.00	.93	.95	1.02	.86	.81	1.21	.85	.95	1.13	1.18	1.13	1.18	.95	1.18	....	.75	....
36-36.9	1.02	1.02	.95	.97	1.04	.88	.83	1.23	.87	.97	1.15	1.20	1.15	1.20	.97	1.20	....	.77	....
37-37.9	1.04	1.04	.97	.99	1.06	.90	.85	1.25	.89	.99	1.17	1.22	1.17	1.22	.99	1.22	....	.79	....
38-38.9	1.06	1.06	.99	1.01	1.08	.92	.87	1.27	.91	1.01	1.19	1.24	1.19	1.24	1.01	1.24	....	.81	....
39-39.9	1.08	1.08	1.01	1.03	1.10	.94	.89	1.29	.93	1.03	1.21	1.26	1.21	1.26	1.03	1.26	....	.83	....
40 and over	1.10	1.10	....	1.05	1.12	....	....	....	.95	1.05	....	....	....	1.28	1.05	1.28	....	.85	....
40-40.9	....	....	1.03	....	....	.96	.91	1.31	....	....	1.23	1.28	1.23	....	....	....	....	....	....
41-41.9	....	....	1.05	....	....	.98	.93	1.33	....	....	1.25	1.30	1.25	....	....	....	....	....	....
42-42.9	....	....	1.07	....	....	1.00	.95	1.35	....	....	1.27	1.32	1.27	....	....	....	....	....	....
43-43.9	....	....	1.09	....	....	1.02	.97	1.37	....	....	1.29	1.34	1.29	....	....	....	....	....	....
44-44.9	....	....	1.11	....	....	1.04	.99	1.39	....	....	1.31	1.36	1.31	....	....	....	....	....	....
45 and over	....	....	1.13	....	....	1.06	1.01	1.41	....	....	1.33	1.38	1.33	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co., effective October 12, 1938. Shell Petroleum Corp., effective October 22, 1938.

Column 2—Standard Oil Co. of Indiana, effective October 11, 1938, below 29 degrees 86 cents, with 2-cent spread to 40 and over at $1.10. Same company on October 17 revised the schedule to start at below 21 degrees at 70 cents, with 2-cent spread to 40 and over at $1.10. Sinclair Prairie Oil Marketing Co. schedule started at below 25 degrees, 60 cents; 25-25.9, 80 cents with 2-cent differential up to $1.10 for 40 degrees and over, effective October 11, but was revised on October 14, starting at 21 gravity, 60 cents, with a 3-cent spread to 30-30.9 degrees at 90 cents, then a 2-cent spread to 40 degrees and over at $1.10. Gulf Oil Corp. schedule starts at below 25 degrees, 78 cents, with 2-cent differential up to $1.10 for 40 degrees and over, effective October 13. Shell Petroleum Corp. schedule same as that of Gulf, effective October 13 to October 21 (see Column 1). The Texas Co. schedule starts at 28-28.9 degrees, 86 cents, with top of $1.10 for 40 degrees and over. Pure Oil Co. same as Standard of Indiana's October 11 schedule, effective October 14.

Column 3—Humble Oil & Refining Co. in Central Texas, effective October 11. Magnolia Petroleum Co. schedule in North and Central Texas, same as the Humble, excepting that it starts at below 29 degrees at 79 cents, effective October 12. The Texas Co. schedule in North and Central Texas, same as Magnolia's except that it stops at 40 degrees and over at $1.03, effective October 12. Gulf Refining Co. same as the Texas Co., effective October 13. Sinclair Prairie Oil Marketing Co., in Mexia and North Central Texas, below 29 degrees, 76 cents, with 2 cents added for each degree up to and including 40 and over at $1, effective October 11. Stanolind Oil Purchasing Co. schedule started at below 29 degrees at 79 cents with a top of $1.03 for 40 degrees and over, effective October 11, but was revised on October 17 to read below 21 degrees, 60, cents, with a 2-cent spread to 40 degrees and over at $1.

Column 4—Standard Oil Co. of Louisiana, effective October 5, 1938. Met by Gulf Refining Co. October 13; met by Texas Co. October 12.

Column 5—Humble Oil & Refining Co., October 11, 1938.

Column 6—Humble Oil & Refining Co., effective October 11, 1938. Met by Sinclair Prairie Oil Marketing Co., stopping at 40 degrees at 96 cents, October 11. Texas Co. quotes "Panhandle sweet crude," beginning with 34-34.9 degrees, at 84 cents, with 2-cent spread to 40 and over at 96 cents, and "Panhandle sour crude," 79 cents for 34-34.9 degrees, with a top of 91 cents for 40 degrees and over, effective October 12. Magnolia Petroleum Co. met Humble prices throughout, effective October 12. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29 degrees, 72 cents with a 2-cent spread, and a top price of 96 cents for 40 degrees and above, and "Panhandle sour crude" below 29 degrees, 67 cents, with a top of 91 cents for 40 degrees and above. effective October 13. Phillips Petroleum Co. schedule for sweet crude in the Gray, Carson and Hutchinson counties, starts at below 29 degrees, 64 cents, with a spread of 2 cents up to 88 cents for 40 degrees and over, effective October 12.

Column 7—Humble Oil & Refining Co., effective October 11, 1938. Met by Sinclair Prairie Oil Marketing Co., stopping at 40 degrees and over at 91 cents. Texas Co. quotes "Panhandle sweet crude" at 34-34.9 degrees, 84 cents, with a top of 96 cents for 40 gravity, and "Panhandle sour crude" at 34-34.9 degrees, 79 cents, with a top of 91 cents for 40 degrees and over, effective October 12. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29 degrees, 72 cents, with a top of 96 cents for 40 degrees and over and "Panhandle sour crude" at below 29 degrees, 67 cents, with a top of 91 cents for 40 degrees and above, effective October 13. Phillips Petroleum Co. schedule for sour crude in Carson, Moore and Hutchinson counties, starts at below 29 degrees at 59 cents, with 2-cent spread up to 83 cents for 40 degrees and over, effective October 12.

Column 8—Humble Oil & Refining Co., effective October 11, 1938. Magnolia Petroleum Co., in Tomball, effective October 12.

Column 9—Humble Oil & Refining Co., effective October 11, 1938. The Texas Co. schedule starts below 26 degrees, 65 cents, and ends at 36 degrees and over at 87 cents, effective October 12. Gulf Refining Co. starts at below 26 degrees at 65 cents and ends at 40 degrees and over at 95 cents, effective October 13. Magnolia Petroleum Co. schedule starts below 25 degrees, 63 cents, and ends at 40 degrees and above at 95 cents, effective October 12. Sinclair Prairie Oil Marketing Co. schedule same as that of Magnolia, effective October 11. Stanolind Oil Purchasing Co. schedule same as that of Humble, effective October 11. Stanolind Oil & Gas Co. (Winkler County) starts at below 26 degrees, 65 cents, with a 2-cent spread, and a top of 95 cents for 40 degrees and above, effective October 11.

Column 10—Continental Oil Co., effective October 11, 1938.

Column 11—Humble Oil & Refining Co., effective October 11, 1938. Met by Gulf Refining Co. in Anahuac, but stopping at 40 and above at $1.23, effective October 12.

Column 12—Humble Oil & Refining Co., effective October 11, 1938. Met by the Texas Co. starting at below 21 degrees at 81 cents and stopping at 28 and above at $1.04.

Column 13—Humble Oil & Refining Co. in Mirando, effective October 11, 1938. The Texas Co. schedule in Mirando and Duval starts at below 21 degrees, 77 cents, with 3-cent spread to 28-28.9 degrees at 99 cents.

Column 14—Posted by Humble Oil & Refining Co., effective October 11, 1938. The Texas Co. schedule in coastal Texas and Louisiana, starts at below 21 degrees, 82 cents, with 3-cent differential up to 26-26.9 at $1 and then a 2-cent differential to top of $1.16 for 34 degrees and above, effective October 12. Gulf Refining Co. schedule on Louisiana Gulf Coast starts at below 18 gravity, 76 cents, with 2-cent spread to 20-20.9 degrees at 82 cents, then a 3-cent spread to 26-26.9 degrees at $1, then a 2-cent spread to a top of $1.16 for 34 degrees and over, effective October 12. Sun Oil Co. met Humble prices October 13, stopping at 34 degrees and over at $1.16.

Column 15—Magnolia Petroleum Co., effective October 12, 1938.

Column 16—Standard Oil & Gas Co. in West Beaumont, effective October 11, 1938, and Magnolia Petroleum Co. in Beaumont field, effective October 12.

Column 17—Magnolia Petroleum Co., effective October 12, 1938.

Column 18—Continental Oil Co., effective October 11, 1938.

Column 19—Shell Petroleum Corp., October 11, 1938.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Oct. 29 High	Week ending Oct. 29 Low	Week ending Oct. 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Com. sh. earn. 1937	Com. sh. earn. 1936	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	71	69	69	Amerada Corp.	788,675	N.P.	50cQ	7-30-38	$3.04	$2.52	$.200	114⅞	51½	125½	75
27⅝	17¾	24	23	23⅛	Atlantic Refining	2,663,999	$25	25cQ	12-15-38	3.51	2.59	1.00	37	18	35⅛	26⅝
23¾	12⅛	23¾	21¼	21¼	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.91	1.14	1.00	43⅜	10⅛	38½	21
21⅝	10⅛	18⅝	17½	17½	Barnsdall Oil Co.	2,250,344	$5	25cQ	11-1-38	0.85	1.01	1.00	35¼	10	28¼	14⅛
10¾	7	9⅜	9	9	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	11-15-38	1.48	1.18	.90	17⅞	7	17¼	11½
35⅜	21¼	30⅞	28	28	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	2.98	2.05	1.50	49	24	44⅞	28⅛
9¾	5	8⅝	8	8⅛	Houston Oil (new)	1,098,618	$25	....	10-17-30	0.94	—0.03	....	17⅝	4⅝	13⅞	6⅝
22⅝	12¼	17⅝	16⅛	16⅛	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	2.86	2.57	1.50	35⅜	14	30⅞	17¼
17⅜	10⅝	14½	14	14	Mission Corporation	1,382,945	$10	$1	6-29-38	1.31	0.48	1.25	34	15	29⅞	16⅝
23	12½	18½	16⅛	16¼	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	4.90	2.02	(‡)	41⅝	17⅝	75½	19⅞
14⅞	8⅞	11	10⅝	10½	Ohio Oil Co.	6,583,377	N.P.	50c	12-15-37	1.30	0.70	1.00	22⅞	8	18	12⅛
15⅞	10¼	12⅞	12¼	12⅞	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	1.39	1.58	.75	29¾	11¾	23½	11¾
9¼	6½	7¼	7¼	7¼	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	1.18	0.52	1.00	17⅛	7	20⅝	12¼
44⅜	27¼	40⅛	38⅝	39¼	Phillips Petroleum	4,449,052	N.P.	50cQ	12-1-38	5.42	4.02	2.75	64	30⅛	52⅜	33⅛
25⅜	15	22½	21½	21½	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	2.85	1.65	1.65	29⅞	13	27⅜	11⅞
13½	8¼	12	10⅝	10⅝	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	2.15	1.63	.25	24⅜	8¾	27⅞	16
8⅞	5	7⅝	7⅛	7¼	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	0.35	....	.25	6½	4⅛	..	..
27½	15½	23½	21⅞	21⅞	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.97	2.00	1.00	54⅛	16	44	30½
18⅜	10	15⅜	15	15	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.44	1.57	1.00	34¾	14⅞	28¾	14¾
34⅜	18½	27⅝	25	25	Skelly Oil	1,003,949	$15	50c	12-15-38	6.07	4.42	1.50	60⅝	26½	47⅝	19½
16⅝	10¾	14¼	13½	13½	Socony-Vacuum	31,151,071	$15	25c	9-15-38	1.82	1.38	.80	23¾	13	17⅞	12½
34⅞	25⅛	30⅞	29½	29⅝	Standard Oil of California	13,014,754	N.P.	35cQ†	9-15-38	3.17	1.79	2.00	50	27⅛	47⅝	35
35½	24¾	30⅝	29⅛	29¼	Standard Oil (Indiana)	15,267,030	$25	25cQ	9-15-38	3.66	3.09	2.30	50	26½	48½	32⅝
48	32½	49⅛	47	49	Standard Oil of Kansas	112,837	$10	$5	12-20-37	6.93	1.91	5.00	43	30⅝	31	25
58⅜	39¾	54⅜	51⅞	51⅞	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	5.64	3.73	2.50	76	42	70⅜	51⅛
59	45	52½	51	51	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	3.86	3.25	$1 & 8% stk.	77½	44½	91	70
4¼	1¾	3⅝	3⅛	3⅛	Superior Oil Corp.	1,388,079	$1	....	.....	0.32	0.14	....	7¾	1½	6¾	3
49⅝	32⅝	44¼	42½	43	Texas Corp.	10,875,006	$25	50cQ	10-1-38	5.02	4.10	2.25	65⅛	34¾	55¼	28⅞
5¼	2⅝	4⅞	4½	4¾	Texas Gulf Producing Co.	888,138	N.P.	15c	12-15-38	0.68	0.93	.10	9⅝	2	8⅞	4⅜
12½	7	10⅝	10	10⅛	Texas Pacific Coal & Oil	888,237	$10	10c	9-1-38	1.11	0.72	.40	16⅝	5⅜	15¼	7½
15⅜	10⅛	13⅜	12⅞	12⅞	Tide Water Associated	6,369,175	$10	25cQ	9-1-38	2.08	1.03	1.20	21⅝	13⅛	21⅜	14⅝
22½	17⅛	20½	19¾	19⅞	Union Oil of California	4,666,270	$25	30cQ	8-10-38	2.58	1.40	1.40	28¼	17½	28½	20¾
23½	20	22½	22	22½	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-38	1.70	1.76	1.60	31½	22	31⅝	22⅝
3½	1⅝	2⅞	2½	2⅝	Wilcox Oil & Gas	506,522	$5	...	5-10-28	0.24	—0.06	....	6¼	1⅜	5¼	2⅜

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock.

New York Curb Exchange

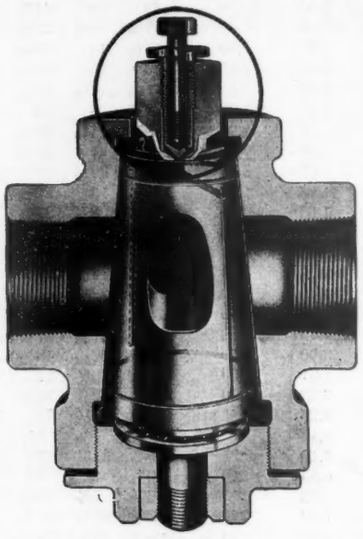
1938 High	1938 Low	Week ending Oct. 29 High	Week ending Oct. 29 Low	Week ending Oct. 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Com. sh. earn. 1937	Com. sh. earn. 1936	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11¾	5	10¼	9½	9½	American Republic Corp.	1,308,049	$10	10c	7-11-38	$0.27	$0.28	$0.40	10	6⅝	..	..
10¼	4⅞	6⅜	6½	6⅜	Bridgeport Machine Co.	260,000	N.P.	$1.25	12-30-37	1.90	1.26	2.00§	21⅜	7	21	13¼
39	24¼	27⅜	26½	27⅜	Buckeye Pipe Line Co.	200,000	$50	50c	12-15-38	4.02	4.40	3.75	51½	36	50	39¾
114¾	97	114½	114¼	114½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-27-38	6.73	7.46	7.00	12	95½	124¾	105
11	5⅛	9⅜	8¾	9	Cities Service (new)	3,714,317	$10	....	6-1-32	1.02	0.13	....	5⅜	1½	7⅜	3
2⅜	⅞	1¼	1	1	Cosden Petroleum	462,551	$1	....	.....	0.19	....	....	5½	1½	4½	1½
27½	17½	21¾	20⅝	21¾	Creole Petroleum	6,975,383	$5	50cSA†	6-10-38	1.61	1.23	1.00	38¾	20¼	39	19⅞
10¼	5½	8⅝	8¼	8¼	Darby Petroleum	351,390	$5	25cSA	1-15-39	1.36	1.26	.50	18⅝	6½	18⅛	9
3½	1¾	2¼	2	2	Derby Oil & Refining	263,162	N.P.	....	.....	1.34	0.66	....	8⅜	2¼	6¾	1⅞
31	19½	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-38	—0.12	—0.62	4.00	47½	24½	47½	38½
46⅞	33	40⅞	39⅛	39¾	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-38	3.51	2.90	1.00	63½	33	59	36
72⅝	56	65½	63½	65¼	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-38	5.22	3.80	2.00	87	54⅞	80	57
19½	14⅛	17⅜	17¼	17¼	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-38	0.98	0.95	1.25	24⅛	14½	24½	19¾
9⅜	6⅝	7½	7	7½	Indiana Pipe Line	300,000	$10	30c	5-14-38	1.03	1.00	.80	15	5⅞	9¾	5½
31¼	21	27	26½	26⅝	International Petroleum	14,324,088	N.P.	$1.25†‡	6-1-38	....	1.81	2.50	39½	23½	39⅝	32⅝
5	2¾	3⅜	3⅜	3⅜	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	0.17	0.20	....	8¾	2⅜	5⅜	2⅝
25⅛	15⅝	22	21	21	Lion Oil Refining	434,820	N.P.	25cQ	10-10-38	2.17	1.43	1.50	34	12½	17⅜	7⅜
10⅝	6⅝	10⅜	10	10⅛	Lone Star Gas	5,553,747	N.P.	20c	8-20-38	1.14	1.02	.60	14¼	5¼	14¼	9⅞
9⅝	6½	7½	7	7⅜	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	0.58	0.64	.50	15¼	6⅜	15⅜	9⅞
9¼	6⅜	9¼	9	9⅛	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.14	0.95	1.00	14⅝	6¼	..	..
5⅝	4½	5⅝	5½	5½	Mountain Producers	1,593,584	$10	30cSA	6-15-38	0.76	0.62	.60	7⅞	4⅛	8⅝	5
14⅝	11½	14¼	14	14	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-38	0.96	1.19	1.00	19½	12	23	17⅜
9¼	6⅝	7	6⅝	6¾	National Transit	509,000	$12.50	35cSA	6-15-38	1.19	0.79	1.00	12½	7¼	15⅝	9¼
2⅝	1⅛	1⅞	1¾	1¾	New Mexico and Arizona	1,000,000	$1	1c	12-1-38	0.02	0.02	....	5	1⅜	6⅝	1⅝
4½	4	4	4	4	New York Transit	100,000	$5	15c	10-15-38	0.49	0.34	1.00	5⅜	3⅞	6¼	4¼
6	4	..	..	..	Northern Pipe Line	120,000	$10	15c	12-1-38	0.78	0.66	1.00	12¾	5¾	9¾	4⅞
7⅝	3½	5⅝	4¾	5⅝	Pantepec Oil	2,441,142	$1	....	.....	....	0.05	....	9⅝	2⅜	10⅛	3¼
3½	1⅝	2⅜	2¼	2¼	Root Petroleum Co.	336,045	$1	25c	2-1-37	—0.17	0.45	.25	12¾	2	19¼	4½
4	2⅛	2¾	2¾	2¾	Ryan Consolidated	296,931	N.P.	....	.....	0.46	....	....	6½	2¼	4¾	1⅞
5⅝	3⅜	..	..	..	Southern Pipe Line	100,000	$10	15cSA	9-1-38	0.85	0.41	.45	7¼	3⅞	7⅞	3¼
39	28¾	33	32½	33	South Penn Oil	1,000,000	$25	37½cQ	9-30-38	4.64	3.59	3.65	56	35	44	32½
22¼	19	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	10-1-38	0.95	0.97	2.00	42	20	60	44
18¾	15	17⅞	17⅝	17½	Standard Oil of Kentucky	2,604,790	$10	25c	9-13-38	1.60	1.46	1.50	21⅛	14¾	23⅜	17⅛
8¾	6⅛	7⅝	7⅛	7⅛	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	—0.58	0.42	.25	13¾	8	14⅝	11
22¾	16¼	22	21¼	21¼	Standard Oil of Ohio	753,740	$25	25c	9-15-38	3.67	4.77	1.50	45	16	40	21¾
3¼	2⅛	2½	2⅜	2⅜	Sunray Oil	2,006,176	$1	10c	12-24-37	0.42	0.26	.25	4⅜	2	5	2⅝
5¼	3½	4¾	4⅝	4⅝	Texon Oil & Land	936,024	$2	15cQ	9-30-38	0.51	0.36	.45	7⅝	2	9¾	5⅜
7⅝	4¼	5⅛	4¼	4¼	Transwestern Oil Co.	750,000	$10	....	.....	0.48	0.06	....	13⅞	4⅝	..	..
5¼	2⅝	4⅜	3⅞	4	United Gas Corp.	7,818,959	$1	....	.....	0.25	0.20	....	13⅞	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

MacClatchie Develops Device for Plug-Valve Lubrication

A device which is said to eliminate gas or fluid leakage during plug-valve lubrication has been announced by MacClatchie Manufacturing



Co., Compton, Calif. "Lubricheck," now standard equipment on all new MacClatchie "Hydro-Seal" plug valves, is especially designed to give longer wearing life to the valve through positive lubricating action and simple operation, and to eliminate the danger of regreasing plug valves under pressure.

"Lubricheck" consists essentially of a tapered seal which seats against the opening of the lubricating chamber and closes off all gas or fluid while the lubricating screw is removed. The tapered seal is equipped with left-hand threads on its outer surface, and less than a quarter turn tightens it against the seat. As the right-hand lube-screw, located inside the seal, is removed, the friction further tightens the seal against the seat, thus making possible a fluid-tight seal even under high operating pressures. To lubricate, a MacClatchie grease-stick is inserted, the lube-screw replaced and tightened. Turning to the right automatically loosens the seal of the "Lubricheck" and opens the grease channels. Grease then is forced into the channels and lubricates the entire body and plug of the valve.

The positive sealing action of the "Lubricheck" is said by the manufacturers to be a definite safety feature for refineries or gas plants where fire hazards are a problem.

MacClatchie "Hydro-Seal" plug valves, equipped with "Lubricheck," are available in many sizes for all field and pipe line operations, in screwed, flanged or union ends, hand- or gear-operated.

Oakite Announces New Way of Cleaning Diesel Crankcases

A new method of cleaning Diesel engine crankcases which makes possible substantial savings in time and effort is announced by Oakite Products, Inc., New York. The method is designed to eliminate the laborious, time-consuming scraping and wiping of surfaces.

The method is based on the use of a recently developed cleaning material known as Oakite Composition No. 9, an oil soluble emulsifier reported to be especially designed to remove quickly and effectively sludge, grease, and carbonized oil deposits. It is mixed with kerosene or light fuel oil. After the mixture has been sprayed on crankcase surfaces, it is allowed to soak, during which time grease and other accumulations are thoroughly softened and loosened. To complete the operation, deposits are flushed away with a high-pressure rinse.

Here and There With Men Who Manufacture Equipment

Oil Center Tool Co., Houston, Tex., has purchased the physical assets of P. & D. Specialty Co., Houston, including the shop, stocks and good will, and has dissolved the latter corporation.

Yale D. Hills has been made manager of distribution sales for the service-sales division of Timken Roller Bearing Co. For several years he has been manager of the Los Angeles branch. His new headquarters will be at the main Timken factory in Canton, Ohio.

Carroll E. Johnson has been appointed assistant advertising manager of International Harvester Co. He succeeds A. C. Seyfarth, who was promoted to advertising manager.

Where Usual Type of Rod-Line Swing Is Not Necessary

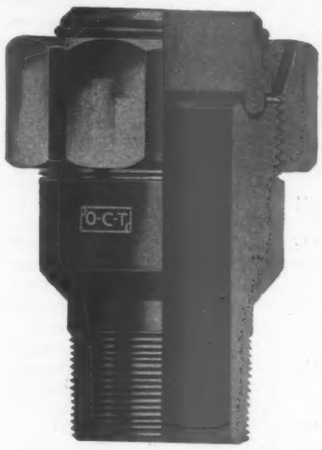
The National holdover (patented), recently placed on the market by the National Supply Co., Toledo, Ohio, is offered as a simple, effective and

economical means of securing slight angularity in pullrod lines where a conventional type rod-line swing is not considered necessary. The complete holdover unit consists of two bearing connections held together by a length of pullrod. This rod acts in tension to hold the rod-line to the desired angle. The pullrod length is conveniently varied to meet conditions.

The connection for the post end may be furnished for attachment to either 4-inch standard pipe or 5⅛-inch casing. On the pull-rod end bearing connection, the connections for the rod-line are attached to the link with pins, rather than a rigid connection. This permits the use of a solid link with a relatively large bearing and at the same time permits self-alignment of the rod-line. The pullrods are held firmly in the connections by split bushings which fit snugly around the heads of the rods. The simple arrangement requires little attention and is easy to assemble. Bushings for all sizes of A.P.I. pullrods are available. A special link for combination clamp stirrups can be furnished on order. Connection bearings are alemite-lubricated, and carry renewable steel shafts.

Oil Center Tool Co. Announces Quick-Change Choke Adapter

Oil Center Tool Co., Houston, Tex., is now offering to the trade a Quick-Change choke adapter, which, according to the manufacturer, is designed



to eliminate the hazard caused by conventional threaded bull-plugs.

This O-C-T adapter, shown in cross section, is installed on the christmas tree in the same manner as a bull-plug, but instead of breaking out the tapered thread connection each time it becomes necessary to change the positive choke, the straight-thread connection between the hexagon nut cap and body of the adapter is broken. According to the manufacturer, this straight thread may be broken and remade as often as desired without damaging the threads. The connection between the cap and the body of the adapter is machined to a loose fit, and can be made up by hand. One turn with a wrench applies sufficient pressure on the ground joint seat to effect a seal. This loose straight thread is said to eliminate galling and freezing.

The O-C-T adapter, drilled for half-inch pressure gauge, is recommended for use as the top connection on christmas trees to facilitate taking of bottom-hole pressures. The hexagon nut cap can be removed easily and quickly without strain on the christmas tree. An O-C-T adapter for connecting the bottom-hole pressure-taking equipment to the tree is also availatble.

As shown in the illustration, a small port is provided in the hexagon nut cap of the adapter to relieve trapped gas and oil upon releasing the cap. For the sake of cleanliness, the port is located to direct the trapped oil away from the christmas tree.

The O-C-T adapter is made of forged steel. The 2- and 2½-inch sizes are made in 6,000-pound test. The 3- and 4-inch sizes are available in test pressure up to 10,000 pounds.

International Men Back at Work

A program of increased tractor and motor-truck production, which, over a period of several weeks, will return 6,000 men to jobs in Chicago; Milwaukee; Fort Wayne, Ind.; Springfield, Ohio, and Rock Island, Ill., is announced by the International Harvester Co. The company's increased manufacturing activity is scheduled to begin at once. Employment will be stimulated also in the company's West Pullman plant in Chicago, which makes auxiliary parts.

Security Engineering Develops Foolproof Liner-Setting Tool

Security Engineering Co., Whittier, Calif., has developed a liner-setting tool that incorporates a novel and foolproof releasing action. The back-off connection between the liner and run-in string is of the conventional wide-thread, left-handed type, but the unique features of this setting tool are the devices which hold the liner from rotating while the back-off operation is in progress, and the floating head which takes the weight off the releasing thread. Because of these features the Security liner-setting tool can be used to run both light and heavy liners, or other similar equipment, with the certainty that release can be effected.

The tool consists essentially of a mandrel with a regular tool-joint connection on its upper end and a ball-bearing thrust-washer assembly on its lower end. The upper half of this mandrel between the tool-joint and thrust-washer has a square cross section, and the floating head, with a correspondingly square hole through it, is free to move up and down on the squared section. This floating head carries the conventional left-hand back-off connection from which the liner is supported by means of a liner adapter.

The assembly is run in the hole in the conventional manner and when the liner strikes bottom the floating head (to which the liner is fastened) slides up on the mandrel, thereby taking all weight off the releasing thread. As the run-in string is lowered a little more the thrust bearing on the end of the mandrel seats on a shoulder provided for it in the adapter. This permits the full weight of the run-in string to be placed on the liner, locking it against rotation, and at the same time preventing any weight being placed on the back-off thread. Then the liner is positively held in position while the run-in string is backed off by rotating to the right the required number of turns. It is not necessary to raise the run-in string while releasing, because the floating head is free to move up the squared section of the mandrel as the threads disengage. The entire operation is under positive control of the operator at all times.

Bulletins, Booklets and Other Literature for the Trade

Blowoff valves for oil-field boilers are the subject of a bulletin offered by Yarnall-Waring Co., Chestnut Hill, Philadelphia, Pa.

How oil exploration is simplified by a new FWD unit is told in the current issue of Truck News, published by Four Wheel Drive Auto Co., Clintonville, Wis.

Amsco-Alloy heat- and corrosion-resistant castings for industrial applications are discussed in a 24-page booklet published by American Manganese Steel Division of American Brake Shoe & Foundry Co., Chicago Heights, Ill.

Fairbanks, Morse & Co., Chicago, have prepared a bulletin on explosion-proof motors.

"Properties and Uses of Inconel" is the title of a 16-page illustrated bulletin mailed on request by International Nickel Co., 67 Wall Street, New York.

An attractive 32-page booklet produced by Independent Exploration Co., Houston, Tex., is devoted to seismograph exploration in the search for oil. Field pictures and the story of the company are given.

A bulletin obtainable from Paul Frank, 456 Fourth Avenue, New York, discusses pH paper for determination of pH value in acid and alkaline solutions.

Illustrations of complete refinery and gasoline plant equipment, built to specifications, are among features of the latest number of the Wyatt Way, published by Wyatt Metal & Boiler Works, Dallas and Houston, Tex.

Macwhyte braided wire-rope slings for big or little loads are described and illustrated in a 16-page booklet available from Macwhyte Co., Kenosha, Wis.

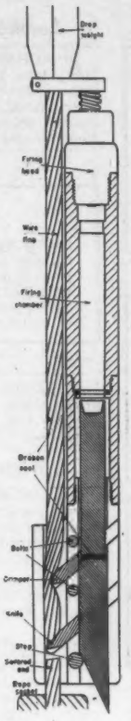
The new 128-page catalog issued by Chain Belt Co., 1600 West Bruce Street, Milwaukee, Wis., covers the entire line of Rex roller chains and sprockets, along with valuable engineering information on chain selection, horsepower curves, horsepower tables, chain lengths, shaft center distances, lubrication, installation and maintenance.

Kyner-Long Corp. Organized

The Kyner-Long Corp. has been formed by R. R. Kyner and Jon R. Long, of Fort Worth, Tex., to develop, manufacture and sell gas-lift equipment. Headquarters of the new company are at 740 West Vickery, Fort Worth, and offices will be maintained in Houston, Tex., as well as in fields where there is gas-lift activity. The company will operate separately from the pumping equipment organization, Jon R. Long, manufacturer. Mr. Long has been in the gas-lift business in connection with his pumping equipment company for the past five years. Mr. Kyner, formerly chief engineer for the Gas Lift Sales Corp., of Dallas, Tex., is known as an authority on gas-lift practices.

Kinley Wire-Line Cutting Tool Is Operated by Explosive

M. M. Kinley Co., 301 Adams Street, Houston, Tex., has perfected and now has in service a new wire-line cutting tool, which, since it uses an explosive as a source of power for its operation is called a wire-line gun. No special line for lowering the gun to operating position is required. Operation of the gun is said to be simple.



The lower part, containing the crimper-blade and cutting-knife, is built in two sections, bolted together. A guide roller at the top insures travel of the gun down the line to the point where it is to be cut.

In assembling the gun to operating position the bolts in the lower part are removed and the two halves reassembled around the line to be cut. The gun then is released for descent to the rope socket or bail, where it is desired to sever the line. A drop weight, also built in two sections, then is assembled around the line and released. When this drop weight comes in contact with the top of the gun the firing mechanism is operated and the explosive charge is fired.

By means of power generated by the explosive a plunger wedge is driven down through the body of the gun. The wedge in turn actuates the crimper-blade, firmly attaching the gun to the wire rope. An additional travel of this wedge drives the cutting-knife into operating position and the wire rope is cleanly severed. The crimper-blade having taken a firm hold on the wire rope above the point at which the line was cut, the entire gun and drop weight are carried to the surface on the cut wire line. This appliance is available on rental charge basis or outright sale.

FEATURE OF TIMKEN AXLE EXHIBIT AT TRUCK SHOW

Officials of Timken-Detroit Axle Co. inspect the Timken 3-for-1 axle display, which will be the central feature of the company's exhibit at the fifth annual National Motor Truck Show in New York, November 11 to 17. Left to right are: Walter F. Rockwell, vice president; R. L. Busse, vice president in charge of sales; R. H. Trese, assistant sales manager; L. R. Buckendale, vice president in charge of engineering; L. W. Fischer, assistant executive engineer; R. J. Goldie, vice president; Col. H. W. Alden, chairman of the board of directors.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

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All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees—FREE
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg. Washington, D. C.

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY
El Dorado, Union County, Arkansas, Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

FOR SALE—Blocks of 100 to 10,000 acres 5 to 10 year term oil and gas leases located on structures near oil and pas producing wells. Two structures are geologically approved. Depth of drilling 450 to 900 feet. W. P. Harley, Bowling Green, Kentucky.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

NEW MEX. LEASES; Lea, Eddy, Chaves, Roosevelt, other SE Counties, 40,000 ac. blocks or spreads. Legitimate inquiries invited. GEO. M. COWELL CO., 412 W. 6th St., Los Angeles, California.

PENSIONS? $30. weekly? $200. monthly? Purely Political piffle for deluded dreaming dolts. But $200. income monthly and better is possible by $950. purchase of a lease and drilling one gas well. Ask H. B. Buddenborg, Osawatomie, Kansas.

TEXAS leases in active counties cheap. Large or small tracts for brokers and salesmen only. Write H. H. WHITE, P.O. Box 674, San Antonio, Texas.

NOW available acreage covering 3 structures in shallow Clinton Co., Ky. field. N. M. Sauls, Geologist, Cookeville, Tenn.

SOUTHEAST NEW MEXICO
Subdividing 80 acres in tracts as small as 1¼ acres. Buyers share in oil, gas, and minerals under entire 80. Write for literature.
HARRY S. WRIGHT
Box 347, Santa Fe, New Mexico.

FOR lease 130,000 acres of untested land in center of world's largest timbered plateau—All in Tennessee coal basin—Both oil and gas being produced here now. See or write G. E. Harrison, Crossville, Tenn.

NEW MEXICO
State Oil and Gas Leases
Forty acres and multiples thereof at $6.00 to $30.00 per forty in the Hot Spots. Write for list. Twenty years in the business and not a complaint.
HARRY S. WRIGHT
New Mexico State Lessee, P. O. Box 347, Santa Fe, N. M., or P. O. Box 168, Council Bluffs, Iowa.

ONLY 280 FEET to Oil sands. Four oil wells, cased, no tubing. One gas well. House, barn. 160 acres, 90 cultivated. Some bottom, timber. All yours, land, mineral rights, for $5000. BUDDENBORG, Osawatomie, Kansas.

Leases and Drilling Blocks

10 ACRES Fee Land, Lea County, N. Mex., leased to Sun Oil Co. All Oil and Potash rights go with the warranty deed. Surrounded by Major Oil Companies. Inquiries solicited. Roy G. Barton, Hobbs, New Mexico.

Wanted

WANTED
Producing properties—Will buy outright or develop for an interest. Send plat and complete information to Box J-621, The Oil and Gas Journal, Tulsa, Oklahoma.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Business Opportunities

OIL PRODUCERS I have buyers for your properties, partly developed preferable. See or write. E. B. REEVES, Box 13, Alanreed, Gray County, Texas.

HOT SPOT FOR SMALL REFINERY
Have the place for you, virgin territory, outlet for 200 to 500 bbl. plant. Sure crude supply, Wyoming field. Address
Box J-612
The Oil and Gas Journal, Tulsa, Okla.

160 ACRES offsets half million gas well, in new field. I will drill a well give you half interest in lease and well for $500.
H. B. BUDDENBORG,
Osawatomie, Kans.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Manufacturer

Established Manufacturer of Oil Field Equipment with large plant and ten (10) stores in Mid-Continent and California Oil Field desires to manufacture patented items for use in pipe line pumping, production pumping, or drilling service. Address Box J-403, The Oil and Gas Journal, Tulsa, Okla.

Situations Wanted

OIL Geologist, for 16 yrs. with world-wide concern, 10 yrs. in highly responsible position in various continents, six languages. Position or temporary assignments. Address: Box 1877, The Oil and Gas Journal, 1406 S. Grand Ave., Los Angeles, California.

Petroleum Technologist
Chemical Engineer
Proven Producer of results. Years of experience in design and operation of refining equipment. Suitable for organizer and executive place in major refining or oil producing unit, desiring to engage in refining. Address Box J-620, The Oil and Gas Journal, Tulsa, Oklahoma.

GRAD. Pet. Engr. 14 yrs. exp. in producing, repressuring, engineering and geological work. Drlg. and develop. a specialty. Unemp. Good refs. Address Box J-602, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

REFINERY CHIEF ENGINEER
Oil company operating four refineries, total capacity 25,000 barrels per day, requires the services of an Engineer experienced in design and construction of modern refinery equipment. In first letter give full information regarding Nationality, Religion, Age, Married or Single, Education, Positions held and salaries earned since Graduation. Our employees have been informed of this advertisement. Address Box J-610, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED: Reliable and experienced Gas Lift Sales Engineer. Give complete personal record with references. Address Box J-611, The Oil and Gas Journal, Tulsa, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Sumbitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Geophysical Service

CAN FIND any oil structure that will produce when penetrated. P. O. Box 308 Tonkawa, Oklahoma.

Legal Blanks

SINCE 1908 Burkhart's legal forms—serving Mid.-Cont. & Illinois oil fields. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

Producing and Non-Producing
OIL ROYALTIES
Registered Dealers Only
GRIMES ROYALTY CO.
Hunt Bldg. Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

SOUTHEAST New Mexico—specializing in Oil Leases and Royalties; 18 years handling New Mexico Oil Properties. Inquiries solicited. Roy G. Barton, Hobbs, N. Mex.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London E. C. 2., England, are buyers of producing oil royalties.

Engineering Service

ENGINEER'S Service Available. Confidential investigations of Natural Gasoline and Gas Re-pressuring possibilities of Gulf Coast areas. References. Box 1096, Corpus Christi, Texas.

Survey Service

THE DOWSING METHOD for locating oil structures, faults, and treacherous areas, operates on the principle of vibratory response to emanations from petroliferous sub-strata. Our WATSON No. 2, pioneer well of the Wilmington, Calif., field was located by this method and all my personally owned production. 15 years' experience. The physico method may solve all your structural difficulties. Geo. Miller, 1548 Post Avenue, Torrance, California. Phone 988.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

INQUIRIES SOLICITED FROM CORPORATIONS INTERESTED IN RAISING CAPITAL THROUGH THE MARKETING OF CORPORATE SECURITIES.
BROWN HARTWELL COMPANY
110 EAST 42 ST., NEW YORK.

OILMEN there are other ways to raise money than selling stock. Learn about revolutionary 60-month Plan launched by America's huge deposit-engorged banks and how to surround even new deals with fund protecting lender from loss. Bulletin $1.00. List of America's 64 leading underwriters who bought $300,000,000 securities last few months $3.00. JOHN MORRIS, 1040 South Paxon, Philadelphia, Pa.

Crude Oil Production

WANTED—200,000 barrels of East Texas crude for monthly export to European Refineries. Indicate price f.a.s. Houston, gravity and daily quantity available. Write: BOURCIER, P. O. Box 827, Oklahoma City, Oklahoma.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment | For Sale—Equipment | For Sale—Equipment | For Sale—Equipment

STEEL STORAGE TANKS — SPECIAL

150—80,000 Bbl. Cap. All Steel, Latest Type,
Quotations Reerected any location in the United States
Complete Stock all other size tanks
Write immediately for quotations.

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba
Riverview at Second
Kansas City, Kans.

J. O. Isaacks
Hays, Kansas

Robt. W. Duden
2100 S. Union
Tulsa, Oklahoma

FOR SALE

3—80 H. P. TYPE X BESSEMER DIRECT DRIVEN COMPRESSORS WITH
16 x 20 ENGINE AND COMPRESSOR CYLINDERS
1—40′ x 132′ x 12′ SECTIONAL STEEL BUILDING
1—24′ x 32′ x 12′ SECTIONAL STEEL BUILDING
EXCEPTIONAL CONDITION • STORED AT WINK, TEXAS

INDUSTRIAL SUPPLY COMPANY
Wichita Falls, Texas

FOR SALE

1—model OXC Star Drilling Machine with Hercules 50 h.p. gasoline motor—mounted on Caterpillar Traction. Also casing, line pipe, drilling machinery, etc. We have a complete line of all including 25,000 feet of 8-inch second-hand plain end line pipe located in Kansas. Wire, phone or write to

LOUISIANA IRON & SUPPLY COMPANY
Shreveport, Louisiana

FOR SALE
HOLLOW-BORED USED STEEL LOCOMOTIVE AXLES

Bore 3"; 6" to 12" dia., approximately 46" long.

Possible cheap attractive substitution for costly billet, bloom, tube, shafting, axle, rod, etc., steels.

Also SOLID LOCOMOTIVE AXLES and STEEL FREIGHT CAR AXLES from 3¼" to 6⅞" diameters.

Large stocks always available. Write for prices, analyses, sketches, etc.

IRON & STEEL PRODUCTS, INC.
Chicago (Hegewisch Sta.), Ill.
Anything containing IRON or STEEL

ONE complete string steam rotary with rig, two 90 horse power boilers, in shape to drill immediately, priced $9500. One complete string steam rotary with rig, three 90 horse power boilers, complete with fishing tools and other extra equipment, in excellent shape to drill, priced $15,000. Rigs located on Tucker Lease, Haven, Kansas. For further information contact Vicking Drilling Company, c/o Yingling Chevrolet Co., Wichita, Kansas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

REPRESSURING UNIT

1—80 H. P. Direct driven two stage Bessemer with 10½ x 20 and 5¼ x 20 compressor cylinders, for sale. OTHA H. GRIMES, Box 327, Tulsa, Oklahoma.

SECTIONAL STEEL BUILDINGS FOR SALE: 1—30 x 10 x 60 standing; 1—20 x 8 x 128 K.D. Oklahoma City; 1—24 x 8 x 106 K.D. Seminole. Condition O.K. Inspection invited. I. T. I. O., Bartlesville.

OVER 100,000 FEET 10¾" O D

Forty pound used wrought Iron line pipe with threads and couplings. Cleaned. Located Walton and Greentown, Indiana. Exceptionally LOW PRICED. Wire or Write.

STANDARD OIL FIELD SUPPLY CO.
P.O. Box 863 Houston, Texas

FOR SALE: At Oklahoma City warehouse several C-10 Sullivan pneumatic pumping heads complete and with preheater furnaces ready to go — or would rent, option to buy, with rental to apply on purchase. I. T. I. O., Bartlesville, Okla.

BIG BARGAIN

Air Compressor — 10x5x10; 60-HP Oil Engine, Almost new. At Centralia, Ill.

P. O. Box 1052, St. Louis, Mo.

FOR SALE—1 Model KS-6-DHK Cardwell Oilwell servicing winch unit, mounted on Mack Truck. Can be inspected O.C. garage. Operating condition now. I.T.I.O., Bartlesville, Okla.

FOR SALE: At our Oklahoma City Warehouse Model D48 Muskogee Iron Works long line well servicing unit powered by HXE Hercules engines mounted on No. 55 truck. I.T.I.O., Bartlesville, Oklahoma.

WHY WASTE TIME

and money dickering around when you can reach your prospects through the medium they have chosen themselves?

An advertisement in these columns will place your message before the wealthiest and most progressive group of men in the world—*OIL MEN*—the readers of The Oil and Gas Journal.

Put the Journal on your payroll—make it a part of your sales force. It will outsell anything you have tried before.

The Oil and Gas Journal
CLASSIFIED DEPARTMENT

Equipment Wanted

WANTED.—Keystone or Armstrong Spudder, Good Shape. Trade Leases, Royalties, or Farms, Illinois Basin. Elton Beck, Herrick, Illinois.

WANT DRILLING RIG

Cable or rotary for Wildcat Well 50 miles from Denver. Depth 5000 ft. mostly shales. If you have idle rig: Address
HENRY C. BEELER, Geologist,
1631 Race Street, Denver, Colorado.

For Sale—Maps

OPPORTUNITY to purchase OIL MAPS at less than printing cost. Office copies and imperfect prints, regular prices from $7.50 to $15.00. Many active areas in Texas and New Mexico included.
$2.00 Net Each
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth, Tex.

YOAKUM COUNTY, TEXAS

New 10,000-foot scale map including Wasson Pool, Gaines county, showing present fee and lease owners, wells and dry holes.
Paper, $1.25; cloth, $2
Same map 4000-foot scale, paper, $5; cloth, $8.
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas.

Ranches and Farm Lands

OFFERING below value 6100-acre improved ranch, in oil area of South Texas. Printed information on request. B. O. SIMS, JR., Kingsville, Texas.

Crude Oil Prices

(Continued from Page 98)

Iles, heavy, Colo. (Oct. 11, 1938)† .92
Dutton Creek, Wyo. (Oct. 11, 1938)†
See note below
Frannie, light, Wyo. (Oct. 11, 1938)† .55
Frannie, heavy, Wyo. (Oct. 11, 1938)† .42
Hamilton dome, Wyo. (Oct. 11, 1938)† .35
Midway, Wyo. (Oct. 11, 1938)†
See note below
Salt Creek Tensleep crude, Wyo. (Oct. 11, 1938)† .846
Salt Creek (Oct. 11, 1938) See note below
Canon City, Colo. (Oct. 11, 1938)‡ .90
Florence, Colo. (Oct. 11, 1938)‡ .90
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Big Muddy, Wyo. (Oct. 11, 1938)‡ .98
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Lea County, N. M.
See West Texas gravity schedule‡
Artesia, Jackson and Maljamar
See gravity table‡
Fort Collins and Wellington, Colo.
See gravity table‡
Eddy County, N. M. (October 11, 1938)¶ .77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. ¶Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crude start at below 29 degrees, 86 cents, 2 cents spread to 40 and over at $1.10. Salt Creek crude excepting Tensleep, takes Standard Oil Co. of Indiana Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective October 11, discontinued posting prices in Greybull-Torchlight, Wyo., and Hogback and Hospah, N. M.

West Texas

See gravity table.
Pecos County (Oct. 11, 1938)* .... $ .78
Pecos shallow (Oct. 11, 1938)† .... .65

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO
(Effective September 1, 1938)
Bradford, Pa. $1.68
Allegany, N. Y. 1.68

SOUTH PENN OIL CO.
(Effective September 1, 1938)
Pennsylvania Grade Oil in National Transit Lines (Bradford field) .. $1.68
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.34
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.28
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.18
Corning Grade Oil in Buckeye Pipe Line Co. line (Oct. 18, 1938) .... .97

PENNZOIL CO.
Group A $1.61
Group B 1.60
Group C 1.59
Group D 1.58
Group E 1.56

PURE OIL CO.
(Effective September 1, 1938)
West Virginia $1.28

Canada

Ontario (Oct. 25, 1938)*
Petrolia $1.90
Oil Springs 1.97

TURNER VALLEY
(January 5, 1938, by Imperial Oil, Ltd.)
Clear naphtha and discolored naphtha, 65 gravity and higher $2.14
Discolored naphtha and crude oil, 40-40.9 gravity 1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity 1.62
These prices f.o.b. producers field tankage.

*Imperial Oil, Ltd.

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Pittsburgh Steel Company
Plymouth Cordage Co.
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Porocel Corporation
Portable Rig Co.
Preformed Wire Rope
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Prest-O-Lite Company, Inc., The
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Wickwire Spencer Steel Company
Williams & Co., J. H.
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W-K-M Company, Inc.
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Worthington Pump & Machinery Corporation
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